

Model Number Smart Part Number	USLR-S20F-NNSN S5NN-SNNN-NNSL-NS00-0000	USLR-S12F-NNSN S3NN-SNNN-NNSL-NS00-0000	USLR-S08F-NNSN S1NN-SNNN-NNSL-NS00-0000
OPTICAL PERFORMANCE SPECIFICATIONS			
Spatial Luminance Uniformity over Exit Port (f/4) - All Lamps On	+/-1%	+/-1%	+/-1%
Angular Uniform FOV (Full Angle) - Degrees / F# / NA - All Lamps On	+/-2.0% - 35° / 0.85 / 0.6	+/-2.0% - 35° / 0.85 / 0.6	+/-2.0% - 35° / 0.85 / 0.6
All (4) Lamps - Expected Luminance Output: cd/m2	17,000	33,000	43,000
All (4) Lamps - Expected Illuminance at Port: lux	53,000	103,000	135,000
Lamp #1 - Expected Luminance Output: cd/m2	9	25	60
Lamp #1 - Expected Illuminance at Port: lux	30	80	200
Lamp #2 - Expected Luminance Output: cd/m2	900	2,800	7,000
Lamp #2 - Expected Illuminance at Port: lux	3,000	9,000	22,000
Lamp #3 - Expected Luminance Output: cd/m2	6,200	10,000	36,000
Lamp #3 - Expected Illuminance at Port: lux	20,000	31,000	113,000
Lamp #4 - Expected Luminance Output: cd/m2	9,800	19,000	None
Lamp #4 - Expected Illuminance at Port: lux	31,000	60,000	None
Number of System Levels via Lamp Combinations	14	14	7
Est. Peak Radiance: W/m2-sr-um @ 0.95 um	510	900	1250
Est. Peak Irradiance @ Port: Photons/s-m2-um @ 0.95um	2.40E+21	4.50E+21	5.80E+21
Dynamic Range/Bits/dB	4.2E+03/12/72	2.92E+03/11/69	3.54E+03/11/70
Approximate Correlated Color Temperature (QTH)	3000K +/-50K	3000K +/-50K	3000K +/-50K
Typical Lamp Lifetimes (hrs)	>500	>500	>500
Est. Lamp Degradation Over Lifetime (% & CCT Shift)	-10% & +/-200K	-10% & +/-200K	-10% & +/-200K
Est. Output Degradation over 50hrs (% & CCT Shift)	-1.0% & +/-20K	-1.0% & +/-20K	-1.0% & +/-20K
INTEGRATING SPHERE			
Coating / Material	Spectrafect®	Spectrafect	Spectrafect
Sphere Internal Diameter: Inches (Meters)	20 (0.5)	12 (0.3)	8 (0.2)
Frame Type	20 in Cage	12 in Cage	8 in Cage
Output Port Size: Inches (Meters)	8 (0.2)	4 (0.1)	2 (0.05)
SYSTEM COMPONENTS			
QTH Lamps Internal (#, Wattage)	(1) 10, (1) 75, (1) 150	(1) 10, (1) 35, (1) 75	(1) 10, (1) 50
QTH Lamps External (#, Wattage)	None	None	None
Spectralon® Satellite Sphere (ID/OD)	3"/4"	3"/4"	3"/4"
Lamp & Tube (#, Wattage / Pinhole)	(1) 5 / Pinhole	(1) 5 / Pinhole	(1) 5 / Pinhole
Internal Satellite Lamp (#, Wattage)	None	None	None
Power Supplies (# - Wattages)	(4) - LPS-400	(4) - LPS-400	(3) - LPS-400
Variable Attenuator	None	None	None
Monitor Detector(s)	SD-S1	SD-S1	SD-S1
Detector Filters (in Filter Holder)	Photopic	Photopic	Photopic
System Software	HELIOsense	HELIOsense	HELIOsense
Cube Computer	Optional	Optional	Optional
STANDARD SYSTEM CALIBRATIONS (NIST Traceable)			
Luminance	Yes	Yes	Yes
Correlated Color Temp (All lamps matched & w/VA position)	Yes	Yes	Yes
Spectral Radiance (350-2400nm)	Yes	Yes	Yes
Exit Port Spatial Uniformity	Yes	Yes	Yes
Exit Port Angular Uniformity	Yes	Yes	Yes
Operational Duration of Calibration	50 hrs	50 hrs	50 hrs

Model Number Smart Part Number	USLR-S08F-NN3N S1NN-3NNN-NNSL-NS00-0000	USLR-S08F-NN7N S1NN-7NNN-NNSL-NS00-0000
OPTICAL PERFORMANCE SPECIFICATIONS		
Spatial Luminance Uniformity over Exit Port (f/4) - All Lamps	+/-1%	+/-1%
Angular Uniform FOV (Full Angle) - Degrees / F# / NA - All Lamps	+/-2.0% - 35° / 0.85 / 0.6	+/-2.0% - 35° / 0.85 / 0.6
Expected Luminance Output: cd/m2	28,000	49,000
Expected Illuminance at Port: lux	88,000	154,000
Est. Peak Radiance: W/m2-sr-um @ 0.95 um	780	1350
Est. Peak Irradiance @ Port: Photons/s-m2-um @ 0.95um	3.50E+21	6.30E+21
Minimum Resolution: lux	Fixed Level	Fixed Level
Number of Steps in System Range	One	One
Dynamic Range/Bits/dB	n/a	n/a
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 100hrs (% & CCT Shift)	-1.0% & +/-20K	-1.0% & +/-20K
INTEGRATING SPHERE		
Coating / Material	Spectrafect	Spectrafect
Sphere Internal Diameter: Inches (Meters)	8 (0.2)	8 (0.2)
Frame Type	8 in Cage	8 in Cage
Output Port Size: Inches (Meters)	2 (0.05)	2 (0.05)
SYSTEM COMPONENTS		
QTH Lamps Internal (# , Wattage)	(1) 35	(1) 75
QTH Lamps External (#, Wattage)	None	None
Power Supplies (# - Model)	(1) - LPS-400	(1) - LPS-400
Variable Attenuator	None	None
Monitor Detector(s)	SD-S1	SD-S1
Detector Filters (in Filter Holder)	Photopic	Photopic
System Software	HELIOsense	HELIOsense
Cube Computer	Optional	Optional
STANDARD SYSTEM CALIBRATIONS (NIST Traceable)		
Luminance	Yes	Yes
Correlated Color Temp (All lamps matched & w/VA position)	Yes	Yes
Spectral Radiance (350-2400nm)	Yes	Yes
Exit Port Spatial Uniformity	Yes	Yes
Exit Port Angular Uniformity	Yes	Yes
Operational Duration of Calibration	50 hrs	50 hrs