

1 LC100

EXTERIOR LIGHTING CALCULATIONS

SCALE 1/16"=1'-0"

LUMINAIRE SCH	HEDULE	
SYMBOL	LABEL	DESCRIPTION
0	OB1.180	180 DEGREE DISTRIBUTION BOLLARD, 4000K
0	OB1.360	360 DEGREE DISTRIBUTION BOLLARD, 4000K
-	OP1.TFTM	LED SITE LIGHT ON 18 FT POLE WITH A 6 INCH TALL CONCRETE BASE, 4000K
	OP1.T3M	LED SITE LIGHT ON 18 FT POLE WITH A 6 INCH TALL CONCRETE BASE, 4000K
	OL1	LINEAR AIMABLE UP-LIGHT MOUNTED IN STRUCTURE OF CANOPY, 4000K
0	OD1	EXTERIOR DOWNLIGHT, 4000K

		SCHEMATIC DESIGN SET NO	OT FOR CONSTRUCTION		SCHEMATIC DESIGN SET NOT FOR CONSTRUCTION	SCHEMATI	SCHEMATIC DESIGN SET NOT FOR CONSTRUCTION						
REVISIONS					PROJECT TITLE SUMMIT BRANCH - MORELAND BLVD	SHEET NAME EXTERIOR LIGHTING CALCU	I ATIONS						
NO. DESCRIPTION	DATE			SIRHIIG	COMMIT BIVATOR MOREE, AND BEVB	PROJECT NO.	2018022	COPYRIGHT STRANG, INC. 2018					
				ARCHITECTURE ENGINEERING INTERIOR DESIGNMERAL POINT ROAD MADISON, WI 53705-	2208 E. MORELAND BLVD	DATE:	05-10-2018 SHEET NO.	LC	100				
				4395	WAUKESHA, WI 53186	DRAWING SET	PLAN REVIEW	LO	10				

LED bollards with 180° light distribution

Post construction: One piece extruded aluminum with internally welded die-cast aluminum base. Die castingas are marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy.

Enclosure: Heavy walled, die-cast aluminum cap. Clear 1/4" thick borosilicate glass with pure anodized aluminum reflector. Fully gasketed for weather tight operation using high temperature silicone gasket.

Electrical: 7.2W LED luminaire, 10 total system watts, -30°C start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 3000K with a >80 CRI. Available in 4000K (>80 CRI); add suffix K4 to order.Note: LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

Anchor base: Heavy cast aluminum, slotted for precise alignment. Mounts to BEGA 79 824 anchorage kit. Bollard secures to base with one stainless steel set screw. The mounting system allows the luminaire to be adjusted independent of anchor bolt orientation.

Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.

 $\mbox{\bf CSA}$ certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP65

Weight: 19.0 lbs.

Luminaire Lumens: 411

LED bollards · 180°

Lamp

A

B

Anchorage

77753

7.2W LED

6½, 39½, 79817

Type:
BEGA Product:
Project:
Voltage:
Color:
Options:
Modified:



1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 FAX (805) 566-9474 www.bega-us.com ©copyright BEGA 2017 Updated 10/17

TYPE: OB1 180

LED Bollards with rotationally symmetrical distribution

Post construction: One piece extruded aluminum, with a one piece aluminum top housing and base, internally welded into an assembly. Die castings are marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy.

Enclosure: Heavy walled, die-cast aluminum cap. Clear %e" thick borosilicate glass with pure anodized aluminum cone reflector. Fully gasketed using high temperature silicone rubber O-ring gaskets.

Electrical: 14.4 W LED luminaire, 20 total system watts, -20°C start temperature. Integral 120 V through 277 V electronic LED driver, 0-10V, TRIAC, and ELV dimmable. LED module(s) are available from factory for easy replacement.

Standard LED color temperature is 3000K with a >80 CRI. Available in 4000K (>80 CRI); add suffix K4 to order.

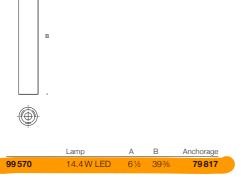
Note: Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

Anchor base: Heavy cast aluminum, slotted for precise alignment. Mounts to BEGA 79817 anchorage kit (supplied).

Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.

UL listed for US and Canadian Standards, suitable for wet locations. Protection class IP65.

Luminaire Lumens: 746



Type:
BEGA Product:
Project:
Voltage:
Color:
Options:
Modified:



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TYPE: OB1 360



Project: Fixture Type: Location: Contact/Phone:

2" IC 600 AND 1000 LUMENS LED ROUND ADJUSTABLE **2LEDTRIM G2 ADJ**







PRODUCT DESCRIPTION

2 inch aperture recessed downlight is IC rated for insulated or non-insulated applications • Luminaire produces up to 1000 lumens and is available with optical distributions approximating that of 75W MR16 halogen lamps

• Low profile form factor allows luminaire to fit in 2 x 6 construction • Designed to provide 50,000 hours of life • 5 year limited warranty on LED Components.

ENVIRONMENTALLY FRIENDLY, ENERGY EFFICIENT

- No harmful ultraviolet or infrared wavelengths
- No lead or mercury, RoHS compliant
- Comparable light output up to a 75W MR16 halogen lamp

PRODUCT SPECIFICATIONS

LED Light Engine Exceptional fixture to fixture color consistency within a 3-step MacAdam ellipse • 2700K, 3000K, 3500K, and 4000K color temperatures are available with 80 CRI or 90 CRI minimum.

Modular Optics Available with field interchangeable optics in 18° Spot, 24° Narrow Flood, or 40° Flood distributions • Gimbal provides up to 35° vertical aiming and 360° horizontal aiming.

Aesthetic Trim Trim features die cast beveled knife edge trim ring for clean ceiling interface available in white, black, satin nickel, or brushed bronze • Die cast baffles are available in white, black, satin nickel, or brushed bronze

LED Driver Choice of dedicated 120 volt (120) driver or universal voltage (MVOLT) driver that accommodates input voltages from 120-277 volts AC at 50/60Hz • Power factor > 0.9 • Dedicated 120 volt driver (120) is dimmable with the use of most incandescent, magnetic low voltage and electronic low voltage dimmers • Universal voltage driver (MVOLT) is dimmable with the use of most 0-10V protocol dimmers • For a list of compatible dimmers, see <u>JUNO2ING2-DIM</u>.

Life Rated for 50,000 hours at 70% lumen maintenance

Labels ENERGY STAR® Certified • 90CRI fixtures are certified to the high efficacy requirements of California T24 JA8-2016 • Meets energy code Air Leakage requirements per ASTM E283 • UL and cUL listed for damp

Junction Box Includes (2) 1/2" knock-outs equipped with pryout slots Push-in electrical connectors for field connections.

Mounting Remodel style plaster frame installs from below the ceiling and accommodates ceiling thicknesses from ½" • For thicker ceilings up to 1½", order 2JCTA150 • New Construction mounting frame, 2NCMF, is also available with Patented (US Patent D552,969) Real Nail 3® telescoping bar hangers to position fixture and locate wiring prior to ceiling installation • Recommend a minimum of 5.5" cavity depth to install properly • Flexible supply is recommended and non-flexible supply requires top access.

Specifications subject to change without notice.

Trim Finishes

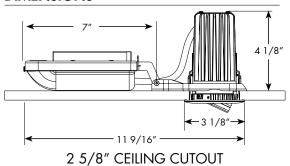






TYPF: OD1

DIMENSIONS



ENGINEERING DATA (600L)

	Dedicated 120V (120)	Universal Voltage (MVOLT)						
Voltage	120	120	277					
Input Power	7.5 (±5%)	7.2	7.5 (±5%)					
Input Current	.06	.06	.03					
Frequency	50/60Hz	50)/60Hz					
Power Factor	>0.9	>0.9	>0.9					

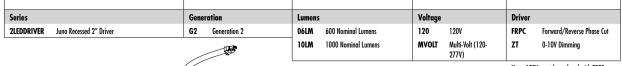
ENGINEERING DATA (1000L)

	Dedicated 120V (120)		rsal Voltage NVOLT)
Voltage	120	120	277
Input Power	11.5 (±5%)	10.9	11.4 (±5%)
Input Current	.10	.09	.04
Frequency	50/60Hz	50)/60Hz
Power Factor	>0.9	>0.9	>0.9

2" IC 600 AND 1000 LUMENS LED ROUND ADJUSTABLE **2LEDTRIM G2 ADJ**

ORDERING INFORMATION DRIVER AND TRIM EACH ORDERED SEPARATELY.

Example: 2LEDDRIVER G2 06LM 120 FRPC



Note: 120V must be ordered with FRPC. MVOIT must be ordered with 7T

MOUNTING FRAME/DRIVER ASSEMBLY

Note: Driver assembly only intended for use with Gen2 LED trim modules. Not backward compatible with previous generation.

TRIM:

Example: 2LEDTRIM G2 ADJ 27K 80CRI FL BL

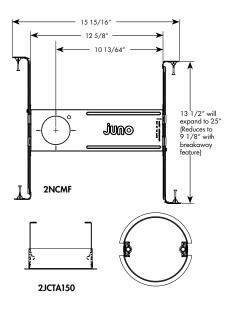




TRIM/LED ASSEMBLY

ACCESSORIES

Catalog No.	Description
2NCMF	New Construction Mounting Frame with Real Nail® 3 bar hangers
2JCTA150	Thick Ceiling adapter for 1" - 1½" thick ceiling
LEDOPTIC2 SP	18° Spot Optic
LEDOPTIC2 NFL	24° Narrow Flood Optic
LEDOPTIC2 FL	40° Flood Optic



TYPE: OD1



OVERVIEW . SPECIFICATIONS . ORDERING

INTERIOR + EXTERIOR | L50 ASYM

PROJECT FIRM

THE L50 INCLUDES PATENTED OPTICAL DESIGN THAT DELIVERS THE WIDEST RANGE OF BEAM ANGLE OPTIONS FOR PRECISE COVE, WALL GRAZING, WALL WASHING OR LINE OF LIGHT APPLICATIONS. EXCLUSIVE FLIP TO FLAT™ HINGE DESIGN PROVIDES FLEXIBILITY WHEN MANAGING SMALL COVE DETAILS, TROV OFFERS SMOOTH, FLICKER FREE DIMMING DOWN TO 0%.

FEATURES:

- DIM TO 0%, ELV REVERSE PHASE
- 24 BEAM ANGLES
- FLIP TO FLAT™
- · 6 CCT OPTIONS
- · 80+ AND 90+ CRI OPTIONS
- IP54 INTERIOR AND IP66 EXTERIOR OPTIONS



MODEL/ SIZE	INTERIOR/ EXTERIOR	LENGTH	POWER	ССТ	CRI	VOLTAGE	OPTICS	
L50	E	12"	02 04 06 08 10 12	WHITE MOI CCT COL 22 GR* 27 BL 30 AM 35 RD* 40	90* Blank For Colo	(120-277V)	GRAZING 9 × 9 9 × 17 9 × 29 9 × 59 15 × 15 15 × 23 15 × 35 15 × 65 COVE 1201 Asym LINE OF LIGHT LOL	WASHING 25 x 25 25 x 33 25 x 45 25 x 75 39 x 9 55 x 25 40 x 40 40 x 90 40 x 90 45 x 15 70 x 40 70 x 70

EXAMPLE: L50-I-48-10-27-90-MULT-15x65 *90 CRi not available in 2200K or 5000K **120 is only available with Exterior option. See L35 spec sheet for interior cove options. ***Red is not available in 12W or 10W. ****Green is not available in 12W.

PERFORMANCE	WATTS	OPTIC	LUMEN OUTPUT	EFFICACY
	2W	ASYM	110 lm/LF (361 lm/m)	55 Im/W
	4W	ASYM	302 lm/LF (1037 lm/m)	76 Im/W
	6W	ASYM	482 lm/LF (1614 lm/m)	80 lm/W
	8W	ASYM	675 lm/LF (2224 lm/m)	84 lm/W
	10W	ASYM	785 lm/LF (2644 lm/m)	79 lm/W
	12W	ASYM	923 lm/LF (2752 lm/m)	77 Im/W

ALL LUMEN DATA IS FROM 4000K 80CRI FIXTURES. PLEASE SEE PHOTOMETRY SPEC SHEET FOR ADDITIONAL LUMEN DATA

COLOR RENDERING INDEX COLOR CONSISTENCY

80+, 90+

LUMEN DEPRECIATION / RATED LIFE

2-STEP MACADAM ELLIPSE

* CALCULATIONS FOR LED FIXTURES ARE BASED ON MEASUREMENTS THAT COMPLY WITH IES LM-80 TESTING PROCEDURES AND IES TM-21 CALCULATOR

ELECTRICAL

POWER CONSUMPTION

 $2W^*/LF \ (6.6W/M) \ ; \ 4W/LF \ (13.2W/M) \ ; \ 6W/LF \ (19.8W/M) \ ; \ 8W/LF \ (26.4W/M) \ ; \ 10W/LF \ (33W/M) \ ; \ 12W/FL \ (39.6W/M) \ ; \ 10W/LF \ (39.6W/M) \ ; \$ * 3W/LF (9.9W/M) at 220V -277V

MAX FIXTURE RUN LENGTH

2W/LF			4W.	/LF	6W	/LF	8W.	/LF	10 W	//LF	12W/LF		
	Volts	Max Run all 1'	Max Run all 4'										
	120	214	214	186	186	152	152	114	114	91	91	76	76
	220	374	392	340	340	277	277	209	209	95	167	95	139
	277	374	494	374	428	349	349	263	263	95	190	95	175

POWER FACTOR **OPERATING VOLTAGE** DRIVER STARTUP TEMPERATURE **OPERATING TEMPERATURE** STORAGE TEMPERATURE

4W, 6W, 8W, 10W, 12W > 0.9, 2W < 0.9 MULTIVOLT: 110-277VAC, 50/60 Hz

INTEGRAL TO FIXTURE; DE-RATED POWER AND SYNCHRONOUS START-UP AT FULL BRIGHTNESS

-40°F TO 122°F (-40°C TO 50°C) -40°F TO 122°F (-40°C TO 50°C) -40°F TO 176°F (-40°C TO 80°C)

ECOSENSE LIGHTING INC. 837 NORTH SPRING STREET SUITE 103 LOS ANGELES, CA 90012

P • 310.496.6255 F • 310.496.6256

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1/3

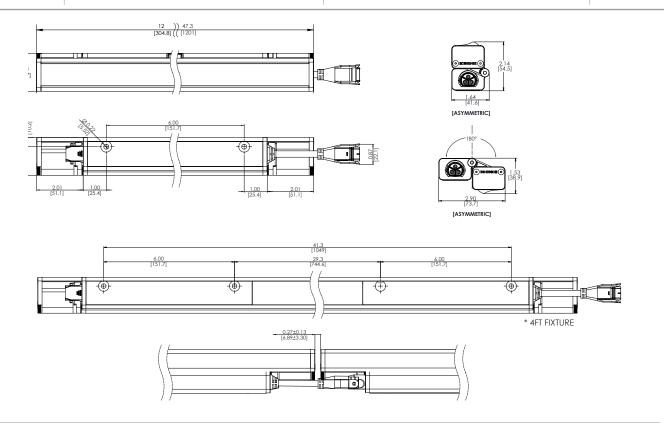
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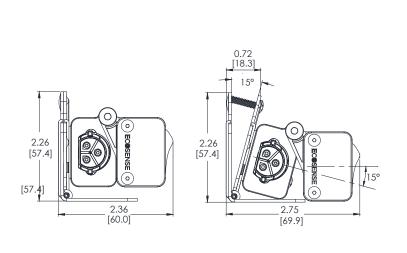
OVERVIEW . SPECIFICATIONS . ORDERING

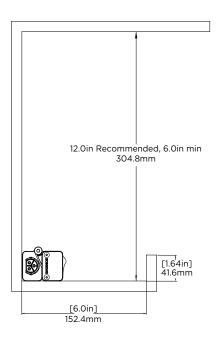
INTERIOR + EXTERIOR | L50 ASYM

PROJECT FIRM



Fine Adjustable L-Bracket:





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3/3



Catalog
Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

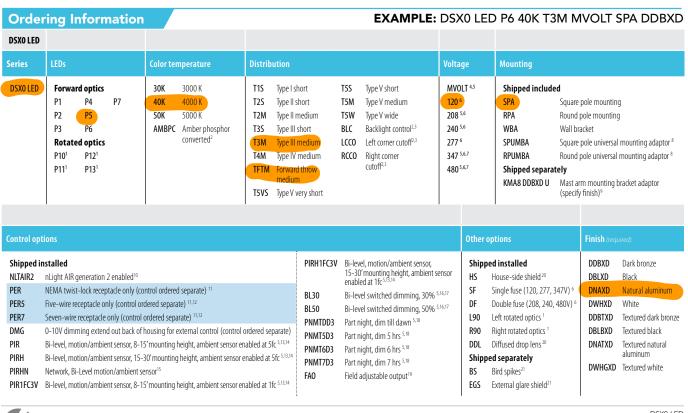
4 Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability1
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background¹

To learn more about A+, visit www.acuitybrands.com/aplus.

- 1. See ordering tree for details.
- A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: Link to Roam; Link to DTL DLL





A+ Capable options indicated by this color background.

One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • www.lithonia.com © 2011-2018 Acuity Brands Lighting, Inc. All rights reserved.

DSX0-LED Rev. 03/21/18 Page 1 of 7

TYPF: OP1

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward	Optics																										
LED Count	Drive	Power	System	Dist.	(3000 N, /U CKI)								50K K, 70 (CRI)		()	Amber Ph	AMBPC osphor Co	onverted)								
	Current	Package	Watts	Туре	Lumens	В	U	G	LPW	Lumens	В	U	G	LPW	Lumens	В	U	G	LPW	Lumens	В	U	G	LPW			
				T1S	10,831	2	0	2	122	11,668	2	0	2	131	11,816	2	0	2	133								
				T2S	10,820	2	0	2	122	11,656	2	0	2	131	11,803	2	0	2	133								
				T2M	10,876	2	0	2	122	11,716	2	0	2	132	11,864	2	0	2	133								
				T3S	10,532	2	0	2	118	11,346	2	0	2	127	11,490	2	0	2	129								
				T3M	10,849	2	0	2	122	11,687	2	0	2	131	11,835	2	0	2	133								
				T4M TFTM	10,613 10,842	2	0	3	119 122	11,434 11,680	2	0	3	128 131	11,578 11,828	2	0	2	130 133								
40	700	P5	89W	T5VS	11,276	3	0	1	127	12,148	3	0	1	136	12,302	3	0	1	138								
				TSS	11,276	3	0	1	127	12,148	3	0	1	137	12,302	3	0	1	138								
				T5M	11,257	4	0	2	126	12,127	4	0	2	136	12,280	4	0	2	138								
				T5W	11,344	4	0	3	127	12,221	4	0	3	137	12,375	4	0	3	139								
				BLC	8,890	1	0	2	100	9,576	1	0	2	108	9,698	1	0	2	109								
							LCC0	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81					
					RCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81							
				T1S	14,805	3	0	3	110	15,949	3	0	3	119	16,151	3	0	3	121	6,206	2	0	2	68			
				T2S	14,789	3	0	3	110	15,932	3	0	3	119	16,134	3	0	3	120	6,322	2	0	2	69			
				T2M	14,865	3	0	3	111	16,014	3	0	3	120	16,217	3	0	3	121	6,201	2	0	2	68			
				T3S	14,396	3	0	3	107	15,509	3	0	3	116	15,705	3	0	3	117	6,247	1	0	2	69			
			134W	T3M	14,829	2	0	3	111	15,975	3	0	3	119	16,177	3	0	3	121	6,308	2	0	2	69			
		1050 P6		T4M	14,507	2	0	3	108	15,628	3	0	3	117	15,826	3	0	3	118	6,275	1	0	2	69			
40	1050			TFTM	14,820	2	0	3	111	15,965	3	0	3	119	16,167	3	0	3	121	6,203	1	0	2	68			
				T5VS	15,413	4	0	1	115	16,604	4	0	1	124	16,815	4	0	1	125	6,671	2	0	0	73			
				T5S T5M	15,426	3	0	2	115	16,618	4	0	1	124	16,828	4	0	1	126	6,569	2	0	0	72			
				T5W	15,387 15,506	4	0	3	115 116	16,576 16,704	4	0	3	124 125	16,786 16,915	4	0	3	125 126	6,491 6,504	3	0	2	71 71			
				BLC	12,151	1	0	2	91	13,090	1	0	2	98	13,255	1	0	2	99	0,304	3	U		/1			
				LCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74								
				RCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74								
				T1S	17,023	3	0	3	103	18,338	3	0	3	110	18,570	3	0	3	112								
				T2S	17,005	3	0	3	102	18,319	3	0	3	110	18,551	3	0	3	112								
				T2M	17,092	3	0	3	103	18,413	3	0	3	111	18,646	3	0	3	112								
				T3S	16,553	3	0	3	100	17,832	3	0	3	107	18,058	3	0	3	109								
				T3M	17,051	3	0	3	103	18,369	3	0	3	111	18,601	3	0	3	112								
				T4M	16,681	3	0	3	100	17,969	3	0	3	108	18,197	3	0	3	110								
40	1300	P7	166W	TFTM	17,040	3	0	3	103	18,357	3	0	4	111	18,590	3	0	4	112								
TU	1300	.,	10011	T5VS	17,723	4	0	1	107	19,092	4	0	1	115	19,334	4	0	1	116								
				TSS	17,737	4	0	2	107	19,108	4	0	2	115	19,349	4	0	2	117								
				T5M	17,692	4	0	2	107	19,059	4	0	2	115	19,301	4	0	2	116								
				T5W	17,829	5	0	3	107	19,207	5	0	3	116	19,450	5	0	3	117								
				BLC	13,971	2	0	2	84	15,051	2	0	2	91	15,241	2	0	2	92								
				LCC0	10,396	1	0	3	63	11,199	1	0	3	67 67	11,341	1	0	3	68 68								
					10,396		0	3	0.5	11,199		U	3	0/	11,341	1	U	3	00								

