

**Harvatek 5.0\*4.8mm Ellipse IR LED LAMP****HV-RI24002C**

Official Product	HV-RI24002C	Customer Part No.		Data Sheet No.
	*****	*****		CDAE-020-680
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Nov. 01 2019	Version of 1.0	Page 1/11

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1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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## Compliance and Certification

ISO9002, QS9000 and ISO14001 Certified

RoHS Compliant



## Orderable Information

**HV - RI 24002 C**



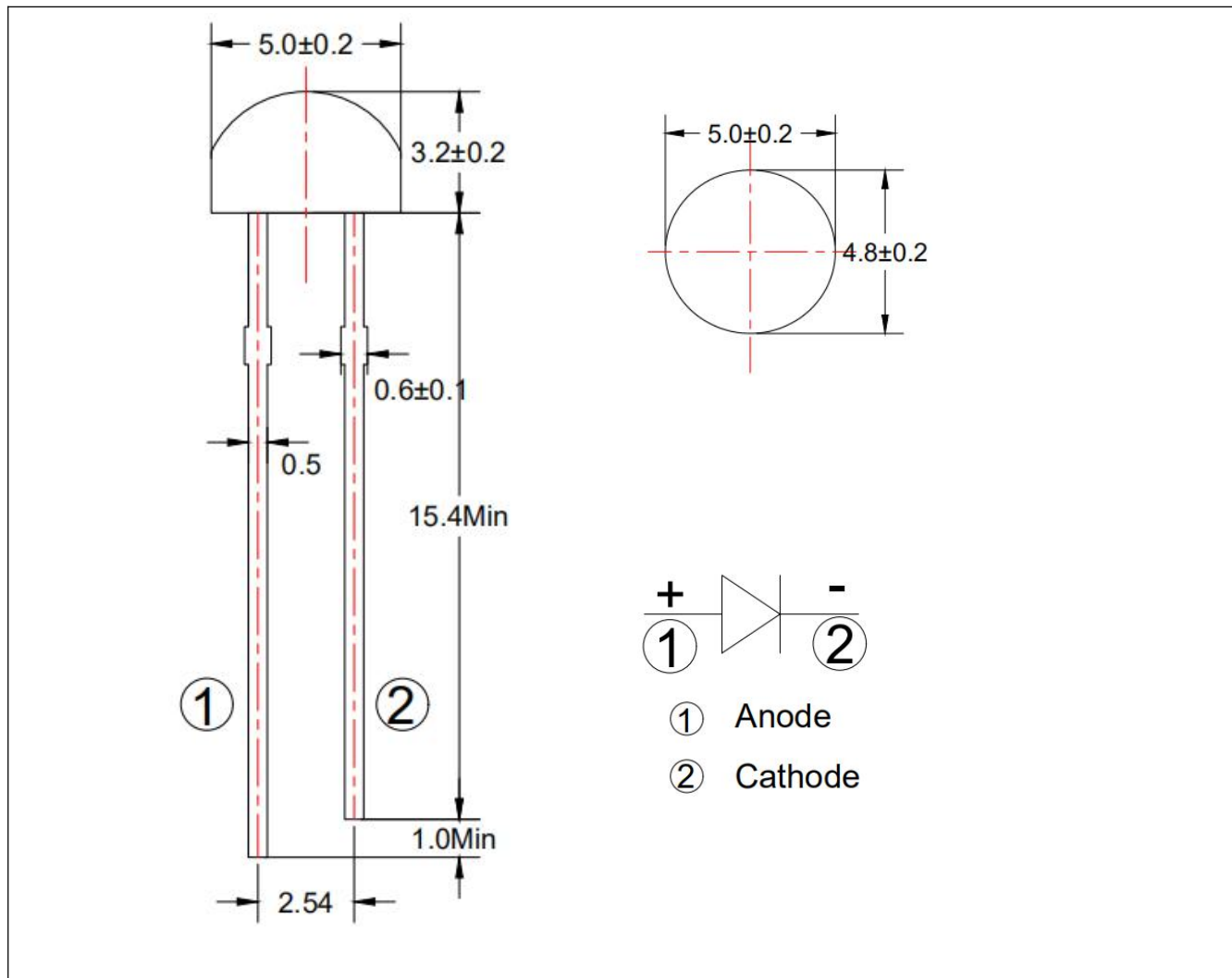
Series Name	Color Code	Remark
<b>HV :</b> <b>HARVATEK</b>	<b>RI24002:</b> 940nm AlGaAs IR Chip. 660nm AlGaInP Red Chip. 3.2mm Ellipse Lamp, 5.0mm Lens <b>C : Water Clear</b>	

## Features:

- Stable Color
- Popular 3.2mm through hole package, 5.0mm lens height.
- Water Clear lens

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## Package Dimensions:



### Notes:

1. All dimensions are millimeters.
2. Tolerance is  $\pm 0.25$  mm unless otherwise noted.
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**Absolute Maximum Ratings at Ta=25°C**

Parameter	Symbol	Rating		Unit
Forward Current	I <sub>F</sub>	R	30	mA
		IR	100	
Operating Temperature	T <sub>opr</sub>	R	-40to+85	°C
		IR		
Storage Temperature	T <sub>stg</sub>	R	-40to+100	°C
		IR		
Soldering Temperature*1	T <sub>sol</sub>	R	260±5	°C
		IR		
Power Dissipation	P <sub>d</sub>	R	75	mW
		IR	180	
Reverse Voltage	V <sub>R</sub>	R	5	V
		IR	5	
Peak Forward Current*2	I <sub>FP</sub>	R	0.1	A
		IR	0.25	

\*1:Soldering time ≤ 5 seconds. \*2 Pulse Width ≤ 100 μs and Duty ≤ 1%.

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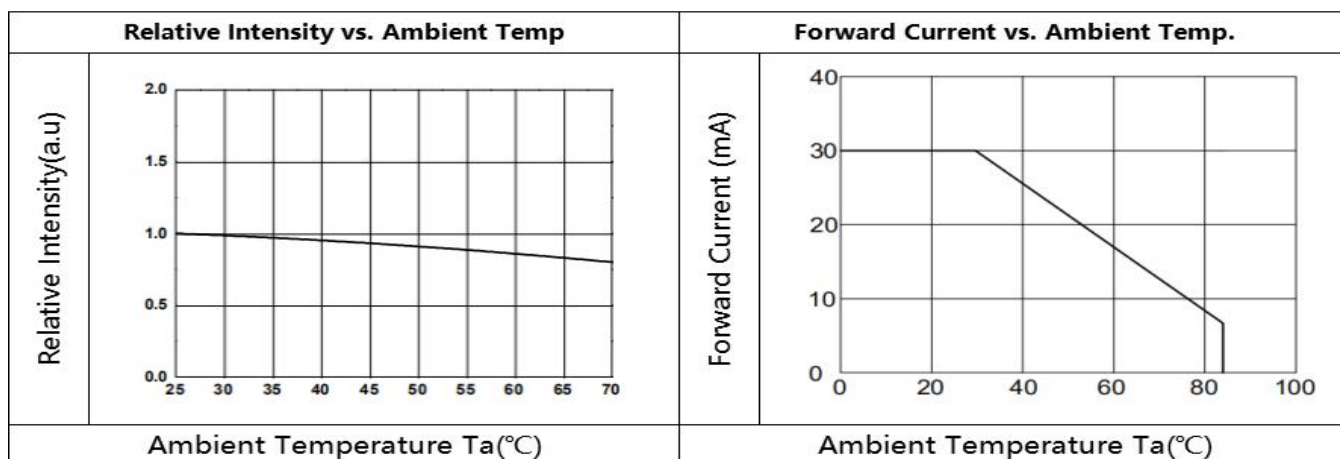
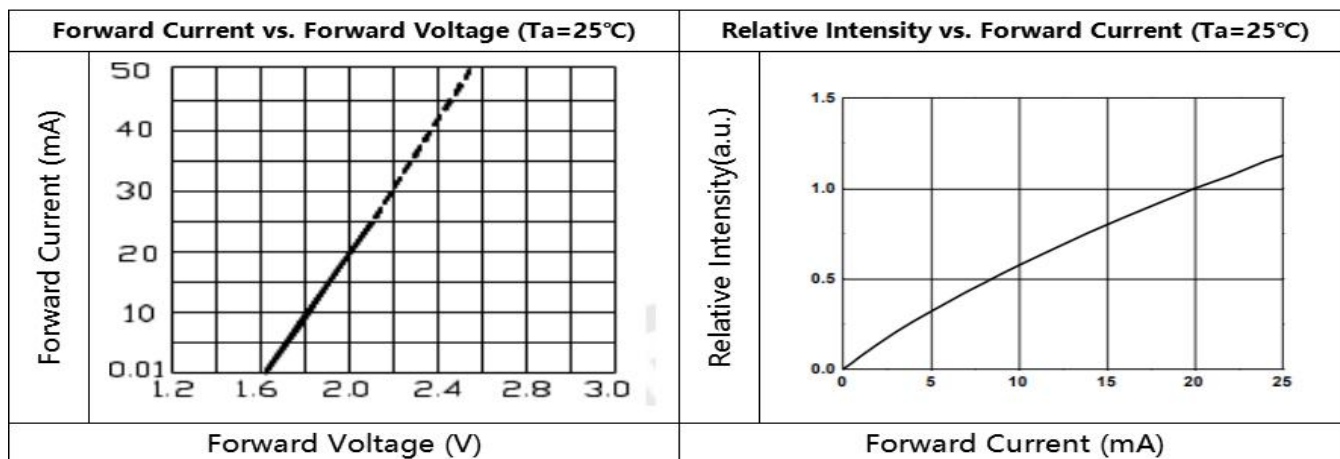
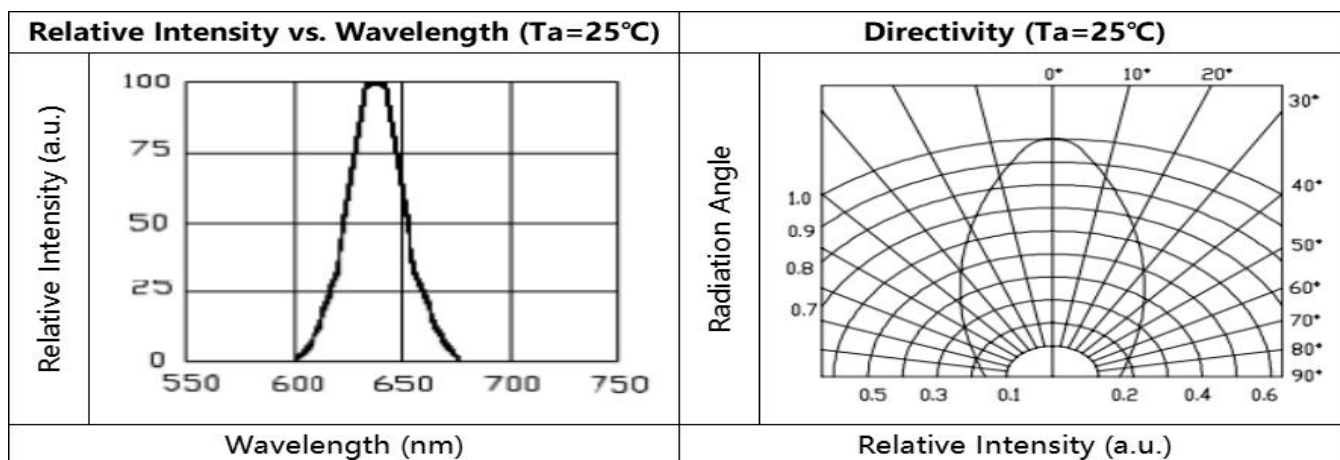
## Electrical and Optical Characteristic

Parameter	Symbol	Condition		Min.	Typ.	Max.	Unit
Forward Voltage	$V_F$	R	$I_F=20\text{ mA}$	1.8	/	2.4	V
		IR	$I_F=20\text{ mA}$	1.1	/	1.5	
Reverse Current	$I_R$	R	$V_R=5\text{ V}$	/	/	5	$\mu\text{A}$
		IR	$V_R=5\text{ V}$	/	/	5	
Luminous Intensity	$I_V$	R	$I_F=20\text{ mA}$	8	/	15	mcd
		IR	$I_F=20\text{ mA}$	8	/	15	mW/sr
Viewing Angle	$2\theta_{1/2}$	R	$I_F=20\text{ mA}$	/	60	/	deg
		IR	$I_F=20\text{ mA}$	/	60	/	
Peak Wavelength	$\lambda_p$	R	$I_F=20\text{ mA}$	640	645	/	nm
		IR	$I_F=20\text{ mA}$	935	940	/	
Spectrum Radiation Bandwidth	$\Delta\lambda$	R	$I_F=20\text{ mA}$	/	20	/	nm
		IR	$I_F=20\text{ mA}$	/	40	/	

Notes:  $\theta_{1/2}$  is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

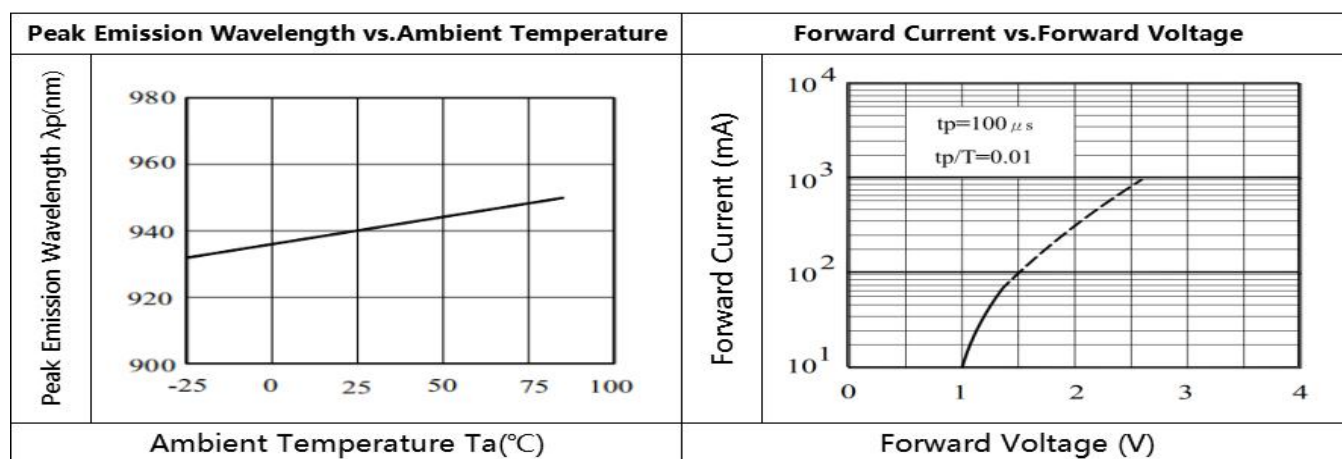
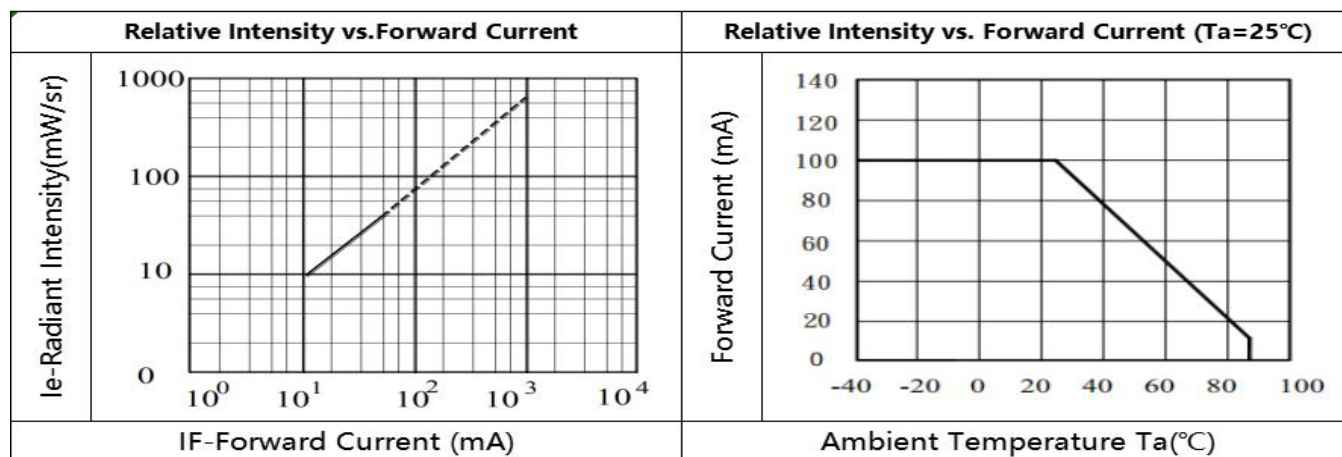
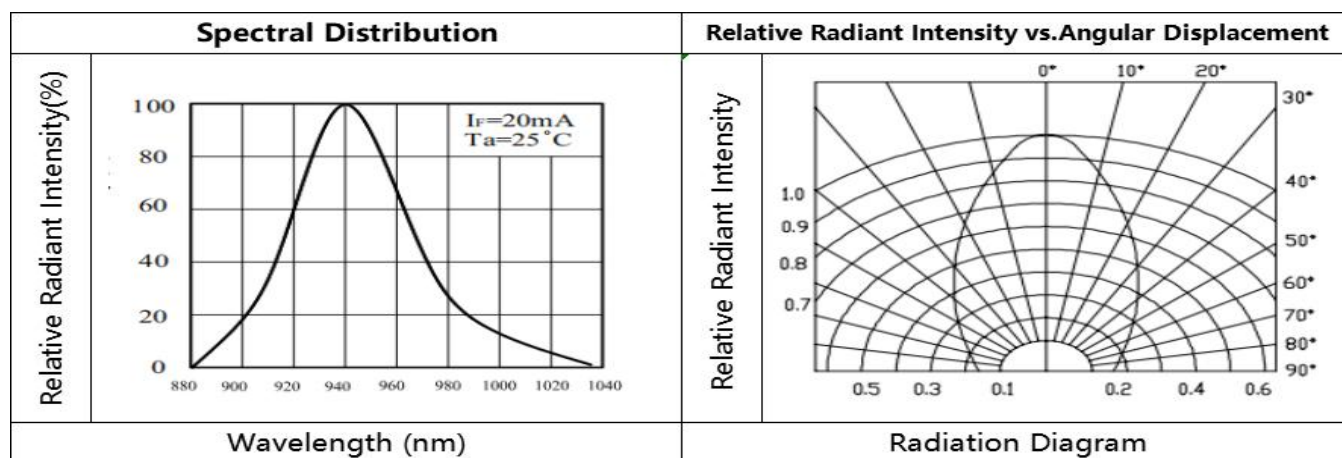
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## Typical Electro-Optical Characteristics Curve



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## Typical Electro-Optical Characteristics Curve



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### Reliability test items and conditions:

The reliability of products shall be satisfied with items listed below.

Confidence level: 97%

LTPD:3%

No	Item	Test Conditions	Test Hours/Cycle	Sample Size	Failure Judgment Criteria	Ac/Er
1	Solder Heat	TEMP:260°C±5°C	10 SEC	76 PCS	$I_v \leq I_{vt} * 0.5$ or $V_f \geq U$ or $V_f \leq L$	0/1
2	Temperature Cycle	H:+100°C 15min ∫ 5min L:-40°C 15min	300 CYCLES	76 PCS		0/1
3	Thermal Shock	H:+100°C 5min ∫ 10sec L:-10°C 5min	300 CYCLES	76 PCS		0/1
4	High Temperature Storage	TEMP:100°C	1000 HRS	76 PCS		0/1
5	Low Temperature Storage	TEMP:-40°C	1000 HRS	76 PCS		0/1
6	DC Operating Life	TEMP:25°C IF=20mA	1000 HRS	76 PCS		0/1
7	High Temperature / High Humidity	85°C/85%RH	1000 HRS	76 PCS		0/1

Note:  $I_{vt}$ : To test  $I_v$  value of the chip before the reliability test.

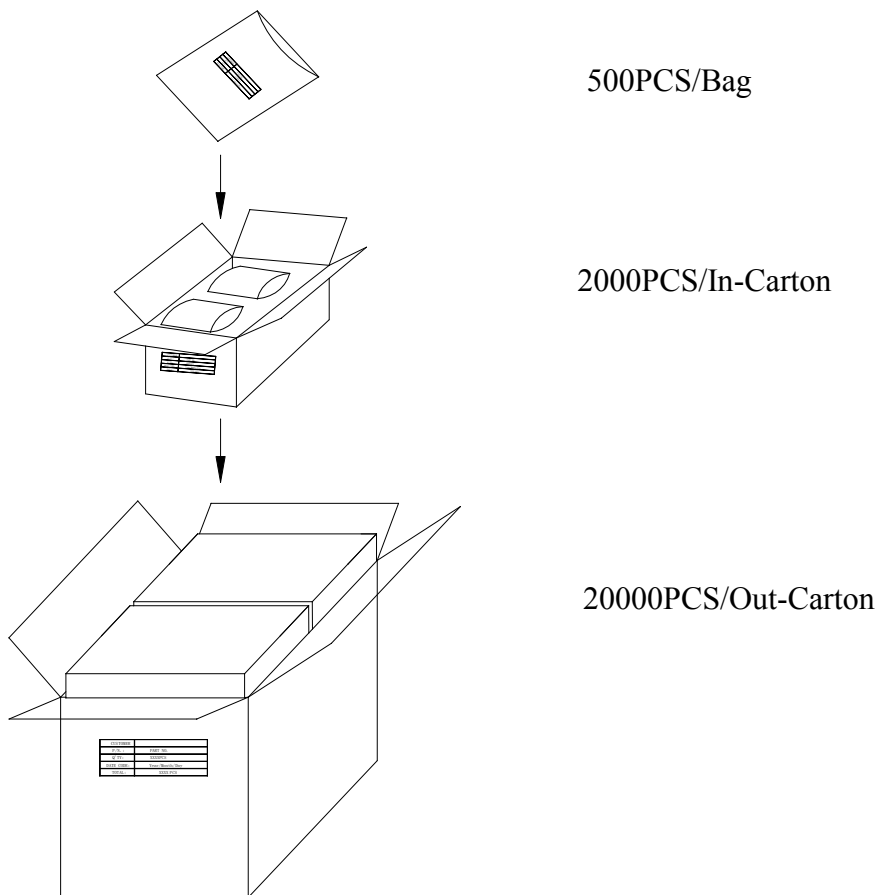
$I_v$ : The test value of the chip that has completed the reliability test

U: Upper Specification Limit

L: Lower Specification Limit

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## Packing Specification:



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**Revision History**

Revision	Page	Version No.	Revision Date
Initial Release		1.0	11-01-2019

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