



CLASSIC INSTRUMENTATION PVT. LTD.

C-45, Sector-65, Noida-201 307 (U.P.)

Ph.: 0120-4279394, Contact : 9717699751

Email : classiclab@gmail.com, Website : www.classictestinglab.com



Cert. No. TC-5099

TEST REPORT

U	L	R	-	T	C	5	0	9	9	1	9	0	0	0	0	0	0	0	9	0	F
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TEST REPORT AS PER: IESLM-79-08

Receipt No.: CI/TES/2K19-20/05/016

Name & Address of Customer: HALONIX TECHNOLOGIES PRIVATE LIMITED Plot No.-5, Sector-12, IIE, SIDCUL, Haridwar, Uttarakhand-249403	Test Report No.: CI/TES/2K19-20/05/016		
	Date of Issue: 18/05/2019		
	Customer Ref. & Date: 09/05/2019		
Testing laboratory and its address: CLASSIC INSTRUMENTATION PVT.LTD. C-45,Sector-65,Noida-201307(U.P.)	Date of Sample Receipt: 09/05/2019	Start of Test Date: 13/05/2019	End of Test Date: 17/05/2019

PART A – PARTICULARS OF THE SAMPLE SUBMITTED

Sample description:	Self-Ballasted LED Lamps for General Lighting Services
Grade/variety/type/class/size etc.	230Vac, 50Hz, 9W, 900 lm, 0.045A, 6500K, 100lm/W, P.F: >0.9, B22d cap type
Declared values, if any	Rated Voltage: 230Vac, Test Voltage: 230Vac, Rated Wattage: 9W, Rated Lumen: 900lm, Rated Frequency: 50Hz, Rated Current: 0.045A, Rated Colour Temperature: 6500K, Rated Colour Rendering Index: ≥80, Total lamp length: 110 mm Max, Total lamp diameter: 60 mm Max
Brand Name and Model no.	"HALONIX" ASTRON PLUS 9W CW B
Quantity	1 No.
Condition of the sample	OK
Reference specification (s)	IES LM-79-08 (Tests have been carried out as per customer's request)
Environmental conditions:	Temperature: (25±1)°C & Relative Humidity <65%

Tested by:	Approved by / Authorized Signatory:	Issued by:
Testing Engineer (Rinku Sharma)	Laboratory Head (Manoj Kumar)	Asst. Technical Manager (Surendra Kumar)
Dated:18/05/2019	Dated:18/05/2019	Dated:18/05/2019





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PART B – SUPPLEMENTARY INFORMATION

Test Report No.: CI/TES/2K19-20/05/016

- a) Deviation from the test methods as per relevant specification/SOP, if any:
- b) Details of drawings, graphs, tables or photographs as referred in the test report, if any:
- c) Testing procedure according to SOP CI/TES/SOP/PHOTOMETRY-01, CI/TES/SOP/LFE and CI/TES/SOP/CCT.
- d) The Management System is maintained in accordance with IS/ISO/IEC 17025.

Notes:

- i) This report is not to be reproduced wholly or in part without written permission of testing laboratory.
- ii) This report refers only to the particular sample detailed above.
- iii) The results reported in this certificate are valid at the time of and under stipulated conditions of measurements.



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Testing Engineer (Rinku Sharma)	Laboratory Head (Manoj Kumar)	Asst. Technical Manager (Surendra Kumar)
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PART C – TEST RESULT

Test Report No.: CI/TES/2K19-20/05/016

Test Equipment:

S.No.	Equipment ID	Equipment Name	Make	Traceability	Calibration Valid Upto
1.	CI/TES/GP/001	Type-C Goniophotometer (Standard Lamp)	Sensing	18010963/D1.04/C-396	23/02/2020
2.	CI/TES/247	Integrating Sphere (Standard Lamp)	Everfine	18010963/D1.04/C-396	23/02/2020
3.	CI/TES/250	Digital Power Meter	Everfine	CI/2K18-2K19/01/025	09/01/2020

Test Results:

S. No	TESTS WITH CLAUSE REFERENCE		SPECIFIED REQUIREMENT	RESULTS
1.	Photometric Results (IES LM-79-08)	i)	Total Luminous Flux	900.86 lm
		ii)	Luminous Efficacy	102.16 lm/W
		iii)	Luminous intensity	172.735 cd
		iv)	Luminous intensity distribution	Graph Attached
		v)	Chromaticity Co-ordinates	x= 0.3188 y= 0.3333
		vi)	Correlated Colour Temperature	6157 K
		vii)	Color Rendering Index	83.7
2.	Electrical Results (IES LM-79-08)	i)	Input Power	8.818 W
		ii)	Input Voltage	230Vac
		iii)	Input Current (Amps)	0.041 A
		iv)	Power Factor	0.939
		v)	Input Frequency (Hertz)	50Hz
3.	Additional Parameters	i)	Stabilization time	45 Minutes
		ii)	Photometric Method Used	IES LM-79-08 Using C type- Goniophotometer

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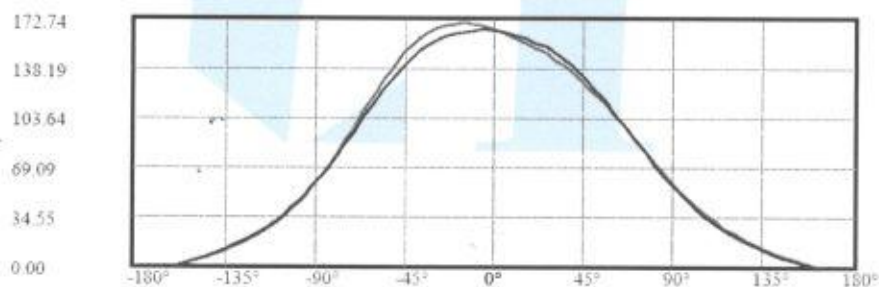
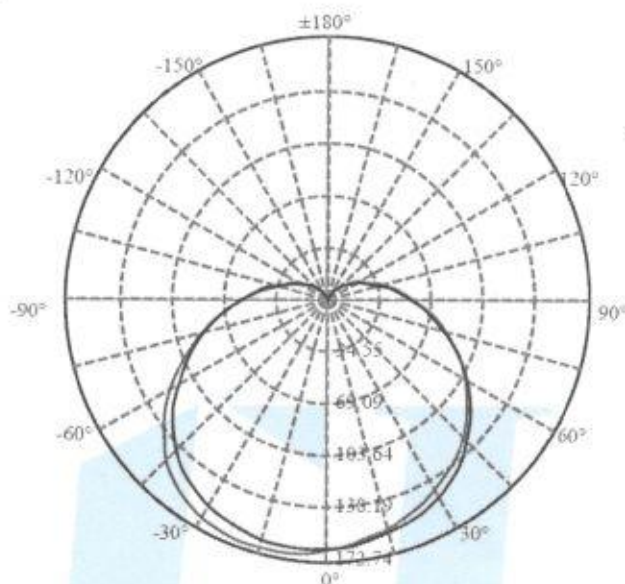
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PART C – TEST RESULT

Test Report No.: CI/TES/2K19-20/05/016

Intensity Distribution Graph



C0/C180: _____

C90/C270: _____



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PART C – TEST RESULT

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Light Intensity Data (cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	165.17	162.47	159.14	156.07	152.47	148.60	144.01	138.96	133.74
15.0	165.89	163.19	160.04	156.52	153.01	149.32	145.09	140.40	135.18
30.0	164.45	162.02	158.78	155.17	151.48	148.06	143.29	138.24	133.02
45.0	165.17	163.10	160.22	157.06	153.28	149.86	145.81	140.85	135.81
60.0	164.18	162.20	159.50	156.25	153.19	149.59	145.18	140.13	134.46
75.0	164.81	163.46	161.30	158.60	155.71	152.47	148.60	143.83	138.42
90.0	164.27	163.28	161.30	158.78	156.07	152.92	149.14	143.92	138.51
105.0	172.74	172.38	171.38	169.76	167.51	164.63	160.76	155.71	149.05
120.0	169.85	170.48	170.48	169.40	167.96	165.53	162.29	157.61	151.75
135.0	168.59	169.58	169.49	168.95	167.42	165.08	161.84	156.88	150.49
150.0	166.70	168.23	169.22	169.04	168.32	166.79	163.91	159.86	154.18
165.0	166.70	168.32	169.22	169.13	168.23	166.70	163.82	158.69	152.47
180.0	165.17	167.33	168.77	169.13	168.95	167.78	165.26	161.39	156.07
195.0	165.89	167.87	168.77	169.04	168.41	166.97	164.45	159.50	153.01
210.0	164.45	166.61	167.96	168.32	168.14	166.88	164.54	160.67	155.17
225.0	165.17	166.70	167.51	167.51	166.52	164.72	161.84	157.06	151.21
240.0	164.18	165.71	166.34	166.34	165.35	163.82	161.12	156.97	151.75
255.0	164.81	165.44	165.35	164.45	163.10	160.76	157.61	152.65	146.26
270.0	164.27	164.81	164.45	163.55	161.75	159.50	156.25	152.11	146.71
285.0	172.74	172.10	170.75	168.95	166.61	163.82	160.22	155.26	149.41
300.0	169.85	168.59	166.52	164.45	161.48	158.15	154.00	148.69	143.02
315.0	168.59	166.88	164.63	161.93	158.87	155.80	151.84	146.98	141.39
330.0	166.70	164.45	161.57	158.42	154.99	151.75	147.07	142.39	136.26
345.0	166.70	164.45	161.39	157.97	154.54	150.94	146.98	142.02	136.80
360.0	165.17	162.47	159.14	156.07	152.47	148.60	144.01	138.96	133.74



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PART C – TEST RESULT

Test Report No.: CI/TES/2K19-20/05/016

Light Intensity Data Unit(cd)

Cl _γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	126.98	120.14	113.39	104.92	97.63	89.07	80.42	72.50	64.03
15.0	129.15	122.66	115.01	107.44	99.43	91.41	82.77	74.75	66.82
30.0	126.35	119.60	112.30	104.02	96.72	87.72	80.51	72.05	63.94
45.0	129.42	122.66	115.28	107.26	99.43	90.87	82.59	74.39	66.10
60.0	127.98	120.50	113.39	105.19	96.00	88.17	79.34	71.33	63.13
75.0	132.03	125.00	116.81	108.79	100.24	91.59	82.50	74.03	65.83
90.0	131.22	123.47	115.73	106.18	98.08	88.53	80.15	70.61	62.41
105.0	141.84	134.28	124.28	114.83	104.47	94.47	85.38	74.66	66.64
120.0	144.91	136.80	127.80	117.44	107.44	97.17	87.00	77.09	67.18
135.0	143.11	135.09	124.73	114.11	102.76	93.03	82.95	72.50	63.85
150.0	147.07	138.60	128.61	118.43	107.71	96.81	85.47	75.29	65.65
165.0	144.73	136.98	125.72	114.38	103.48	92.49	82.86	71.87	61.24
180.0	148.60	139.95	130.14	119.60	108.34	96.45	85.47	74.84	64.39
195.0	145.27	136.80	125.99	115.28	103.66	92.31	81.95	70.34	61.24
210.0	148.15	139.77	129.96	118.97	107.80	96.63	84.84	74.84	64.48
225.0	143.92	135.63	124.73	113.75	102.76	92.40	81.86	71.51	60.88
240.0	144.55	136.89	126.98	117.17	106.63	95.10	84.57	74.30	64.84
255.0	139.32	131.40	121.13	111.67	100.96	90.96	81.05	70.70	61.15
270.0	139.59	132.12	123.20	113.57	103.75	93.84	83.94	74.30	64.84
285.0	142.66	134.82	125.81	116.72	107.17	97.54	87.00	77.81	68.72
300.0	135.54	127.71	120.32	110.77	101.59	93.30	82.86	73.94	65.02
315.0	134.82	127.98	119.87	111.58	102.94	93.75	84.84	76.19	67.73
330.0	129.60	122.66	115.46	106.90	98.62	90.15	81.05	72.50	64.66
345.0	130.59	123.92	116.63	108.43	100.33	92.04	83.22	75.56	67.00
360.0	126.98	120.14	113.39	104.92	97.63	89.07	80.42	72.50	64.03



Tested by:	Approved by / Authorized Signatory:	Issued by:
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Dated:18/05/2019	Dated:18/05/2019	Dated:18/05/2019



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PART C – TEST RESULT

Test Report No.: CI/TES/2K19-20/05/016

Light Intensity Data Unit(cd)

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	56.11	49.80	43.23	37.28	32.24	27.11	23.24	19.45	16.12
15.0	59.26	51.78	45.21	39.27	33.86	28.82	24.41	20.53	17.11
30.0	56.11	49.53	43.14	36.83	32.24	27.02	22.79	19.27	15.76
45.0	58.54	51.33	44.49	38.91	33.23	28.46	24.14	20.17	16.84
60.0	55.39	48.63	42.51	35.93	31.52	26.30	22.42	18.73	15.22
75.0	58.09	50.88	43.86	37.92	32.51	27.56	23.60	19.54	16.21
90.0	54.67	48.00	41.25	35.30	30.08	25.76	21.70	18.01	14.77
105.0	57.82	49.89	43.41	36.83	31.52	26.93	22.15	18.46	14.95
120.0	58.72	50.70	43.41	37.47	31.61	26.93	22.42	18.55	15.31
135.0	54.67	46.74	40.62	34.58	29.18	24.68	20.62	16.93	13.60
150.0	56.83	48.99	41.52	35.39	30.17	25.40	21.07	17.56	14.23
165.0	53.68	45.21	38.82	32.96	28.10	23.87	19.45	16.03	13.15
180.0	55.93	47.55	40.80	34.67	29.18	24.68	20.71	17.02	13.96
195.0	52.05	44.58	38.64	32.33	27.92	23.24	19.45	15.76	12.52
210.0	55.57	47.64	40.35	34.31	29.18	24.59	20.71	16.93	13.78
225.0	53.41	44.40	38.37	32.78	28.01	23.24	19.27	15.76	12.97
240.0	55.93	47.73	40.80	34.85	29.63	24.77	20.80	17.20	14.05
255.0	53.50	45.30	39.27	33.23	28.55	23.96	19.72	16.30	12.97
270.0	56.38	48.81	42.06	35.57	30.35	25.76	21.70	17.92	14.59
285.0	60.25	52.51	45.21	39.00	33.41	28.28	24.05	19.99	16.48
300.0	57.10	49.71	43.32	36.83	31.79	27.20	22.70	19.27	15.58
315.0	59.71	52.05	45.21	39.09	33.23	28.46	24.05	20.26	16.75
330.0	56.47	50.16	43.23	37.01	32.15	27.11	23.15	19.36	15.67
345.0	59.44	52.14	45.21	39.45	33.77	28.82	24.59	20.44	16.93
360.0	56.11	49.80	43.23	37.28	32.24	27.11	23.24	19.45	16.12



Tested by:	Approved by / Authorized Signatory:	Issued by:
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PART C – TEST RESULT

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Light Intensity Data Unit(cd)

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	12.88	9.91	7.47	5.13	3.24	1.17	0.00	0.00	0.00
15.0	13.96	10.99	8.47	6.03	3.78	1.98	0.18	0.00	0.00
30.0	12.88	10.00	7.38	5.04	3.06	1.08	0.00	0.00	0.00
45.0	13.51	10.72	8.20	5.67	3.69	1.80	0.00	0.00	0.00
60.0	12.34	9.46	7.11	4.86	2.70	0.81	0.00	0.00	0.00
75.0	13.15	10.18	7.84	5.40	3.42	1.44	0.00	0.00	0.00
90.0	11.71	8.92	6.48	4.14	2.43	0.45	0.00	0.00	0.00
105.0	11.89	9.46	6.57	4.50	2.34	0.45	0.00	0.00	0.00
120.0	12.16	9.46	6.93	4.68	2.70	0.90	0.00	0.00	0.00
135.0	10.54	8.29	5.76	3.69	1.89	0.00	0.00	0.00	0.00
150.0	11.35	8.65	6.30	4.14	2.07	0.45	0.00	0.00	0.00
165.0	9.91	7.75	5.22	3.24	1.26	0.00	0.00	0.00	0.00
180.0	10.90	8.38	6.03	3.96	1.44	0.00	0.00	0.00	0.00
195.0	9.73	7.57	5.22	3.24	0.27	0.00	0.00	0.00	0.00
210.0	10.99	8.20	6.12	3.87	1.62	0.00	0.00	0.00	0.00
225.0	10.00	7.57	5.22	2.97	0.81	0.00	0.00	0.00	0.00
240.0	11.08	8.47	6.21	4.05	2.07	0.00	0.00	0.00	0.00
255.0	10.27	8.02	5.49	3.42	1.44	0.00	0.00	0.00	0.00
270.0	11.71	9.01	6.57	4.23	2.34	0.00	0.00	0.00	0.00
285.0	13.51	10.54	8.02	5.67	3.51	0.00	0.00	0.00	0.00
300.0	12.43	9.82	7.20	4.95	2.79	0.00	0.00	0.00	0.00
315.0	13.60	10.72	8.20	5.85	3.60	1.80	0.00	0.00	0.00
330.0	12.70	9.91	7.29	5.13	3.06	1.17	0.00	0.00	0.00
345.0	13.96	10.99	8.47	5.94	3.78	1.89	0.00	0.00	0.00
360.0	12.88	9.91	7.47	5.13	3.24	1.17	0.00	0.00	0.00



Tested by:	Approved by / Authorized Signatory:	Issued by:
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PART C – TEST RESULT

Test Report No.: CI/TES/2K19-20/05/016

Light Intensity Data Unit(cd)

C/γ(°)	180.0
0.0	0.00
15.0	0.00
30.0	0.00
45.0	0.00
60.0	0.00
75.0	0.00
90.0	0.00
105.0	0.00
120.0	0.00
135.0	0.00
150.0	0.00
165.0	0.00
180.0	0.00
195.0	0.00
210.0	0.00
225.0	0.00
240.0	0.00
255.0	0.00
270.0	0.00
285.0	0.00
300.0	0.00
315.0	0.00
330.0	0.00
345.0	0.00
360.0	0.00



Tested by:	Approved by / Authorized Signatory:	Issued by:
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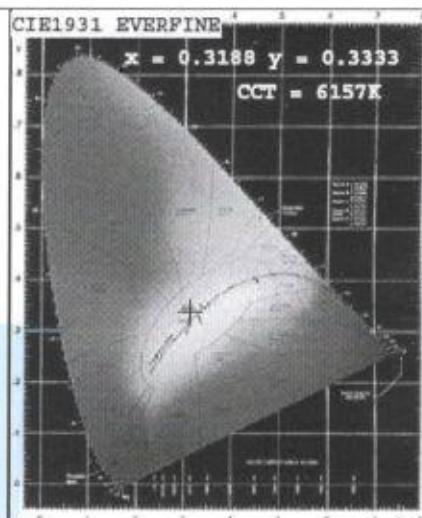
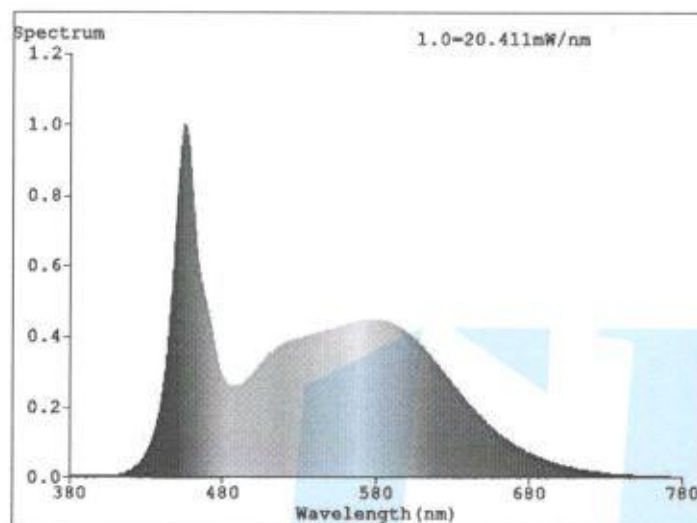
Cert. No. TC-5099

U L R - T C 5 0 9 9 1 9 0 0 0 0 0 0 0 9 0 F

PART C – TEST RESULT

Test Report No.: CI/TES/2K19-20/05/016

Spectral Parameter



Color Parameters:

Chromaticity Coordinate: x=0.3188 y=0.3333/u'=0.2005 v'=0.4715

CCT=6157K(Duv=0.0024) Dominant WL:Ld =491.7nm Purity=4.9%

Ratio:R=14.0% G=79.8% B=6.2%; Peak WL:Lp=455.3nm FWHM=22.1nm

Render Index:Ra=83.7 AvgR=77.1

R1 =83 R2 =93 R3 =94 R4 =79 R5 =82 R6 =87 R7 =85

R8 =66 R9 =7 R10=81 R11=79 R12=58 R13=87 R14=97 R15=78



Tested by:	Approved by / Authorized Signatory:	Issued by:
Testing Engineer (Rinku Sharma)	Laboratory Head (Manoj Kumar)	Asst. Technical Manager (Surendra Kumar)
Dated:18/05/2019	Dated:18/05/2019	Dated:18/05/2019



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Cert. No. TC-5099

U L R - T C 5 0 9 9 1 9 0 0 0 0 0 0 0 0 9 0 F

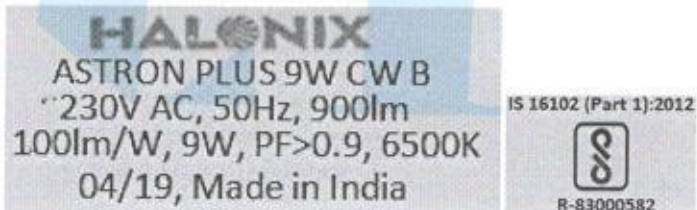
PART C – TEST RESULT

Test Report No.: CI/TES/2K19-20/05/016

Photograph:



Copy of marking Plate



PART D:

Remarks: 1. The observations given in part A of the cover page of the test report are taken from the marking on the sample given by customer.

Tested by:	Approved by / Authorized Signatory:	Issued by:
Testing Engineer (Rinku Sharma)	Laboratory Head (Manoj Kumar)	Asst. Technical Manager (Surendra Kumar)
Dated: 18/05/2019	Dated: 18/05/2019	Dated: 18/05/2019