




TEST REPORT

Of IES LM-79-19

Kunde: <i>Client:</i>	AOK Industrial Company Limited
Adresse: <i>Address:</i>	1/F of 1#Building, East Block of 3/F of Building 1, And 2/F of Building 4, ST George' s Science and Technology Industrial Park, Northside of Xinyu Road, Xiangshan Community, Xianqiao Street Baoan District, 518000 Shenzhen, Guangdong, CHINA
Hersteller: <i>Manufacturer:</i>	AOK Industrial Company Limited
Adresse: <i>Address:</i>	1/F of 1#Building, East Block of 3/F of Building 1, And 2/F of Building 4, ST George' s Science and Technology Industrial Park, Northside of Xinyu Road, Xiangshan Community, Xianqiao Street Baoan District, 518000 Shenzhen, Guangdong, CHINA
Name der Marke: <i>Brand Name:</i>	
Beschreibung des Produkts: <i>Product Description:</i>	LED STADIUM LIGHT
Modelle: <i>Models:</i>	AOK-1200WISF-NV-00-S35-4080-20-U
Bewertung: <i>Rating:</i>	AC100-277V, 50/60Hz, 1200W CCT:4000K
Verfahren: <i>Method:</i>	IES LM-79-19: Approved Method for Electrical and Photometric Measurements of Solid-State Lighting Products
Prüfergebnis*: <i>Test result*:</i>	Please see the following test data

Datum der Prüfung:
Date of Test:

2022-12-11-2022-12-15

Datum der Emission:
Date of Issue:

2023-01-05

Klassifizierung:
Classification:

Commission Test

Gegenstand der Prüfung:
Test item:

IES LM-79-19

Prüflabor (Testlabor) / Testing Laboratory:
Shenzhen Southern LCS Compliance Testing Laboratory Ltd./
AOK Industrial Company Limited.

Compiled von/Compiled by:

Zero Huang

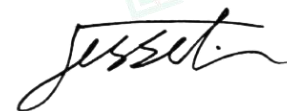
Zero Huang/ Project Engineer

Check von/Check by:



Ian Luo/ Director

Genehmigt von/Approved by:



Jesse Liu/ Manager

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This report can be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the Federal Government.





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1. Test Method

Test Item.....	Integrating Sphere Test
Ambient Condition.....	24.9℃
Stabilization time(h):	0.5h
Orientation(burning position) of SSL product during test	down
Test Method	<p>The sample was tested according to the IES LM-79-2019.</p> <p>The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.</p>
Test Item.....	Goniophotometer Test
Ambient Condition.....	25.3℃
Total operated time of the product for measurements including stabilization..... (h):	1.0h
Orientation(burning position) of SSL product during test	down
Test Method.....	<p>The sample was tested according to the IES LM-79-2019.</p> <p>Photometric parameters were measured using a type C goniophotometer and software. The sample reference plane was located at the center of the sample goniometer at a test distance of 7.682m from the detectors. The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, Luminous efficacy, zonal flux were calculated from the software taken at 1°vertical intervals and 15°horizontal intervals.</p>





2. Product Information

Product description.....	LED STADIUM LIGHT
Model Number.....	AOK-1200WISF-NV-00-S35-4080-20-U
Rated Inputs.....	AC100-277V
Rated Power.....	1200W
Declared CCT.....	4000K
LED Manufacturer.....	Seoul Semiconductor Co., LTD
LED Model.....	SZ5-M4-WW-C7
LED Package, Array or Module.....	2*(5P50S+2); 504pcs LED chip(s)
Forward current of the LED chip.....	1050mA
Driver Manufacturer.....	Inventronics(Hangzhou),Inc.
Driver Model.....	EUM-680S560MG*2
Date of Receipt Samples.....	December 10, 2022
Quantity of Receipt Samples.....	1 unit

3. Test equipment list

Manufacturer	Description	Equipment ID	Model	Calibration Date	Calibration Due Date
EVERFINE	Full-field Speed Goniophotometer	SLCS-S-112	GO-R5000	2022/06/22	2023/06/21
EVERFINE	Digital Power Meter	SLCS-S-103	PF2010	2022/06/22	2023/06/21
EVERFINE	AC Testing Power Source	SLCS-S-115	DPS1060	2022/06/22	2023/06/21
EVERFINE	Total Spectral Radiant Flux Standard Lamp	SLCS-S-143	D908S	2022/07/04	2023/07/03
EVERFINE	2 Meter Integrating Sphere	SLCS-S-312	HAAS2000	2022/09/19	2023/09/18
EVERFINE	Digital Power Meter	SLCS-S-309	PF9810	2022/09/19	2023/09/18
EVERFINE	AC Testing Power Source	SLCS-S-310	DPS1005	2022/09/19	2023/09/18
EVERFINE	DC Testing Power Source	SLCS-S-311	WY605	2022/09/19	2023/09/18
OSRAM	Standard Lamp	SLCS-S-313	DC24V/50W	2022/10/09	2023/10/08





4. Integrating Sphere Test Results

4.1 Test Data

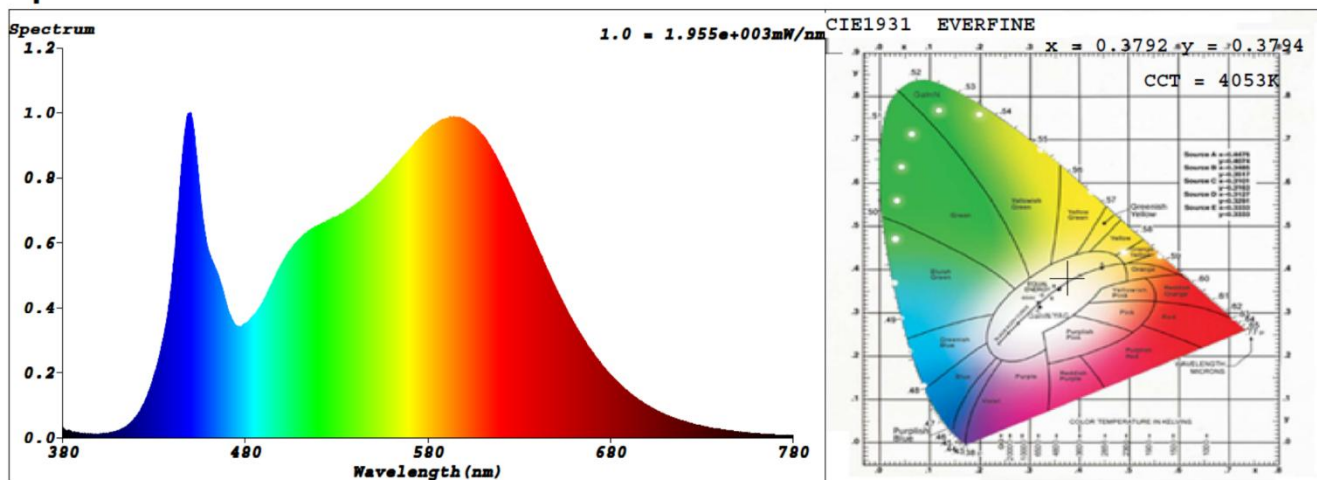
Test type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	220.05	59.99	5.381	0.9924	1175

Luminous flux (lm)	Luminous efficacy (lm/W)	CCT (K)	x	y	u'	v'
149166	126.95	4053	0.3792	0.3794	0.2232	0.5026

Duv	CRI	R9	Rf	Rg	IES Rcs	THD(A)
1.60e-03	83.6	4	85	94	-13%	7.05%

4.2 Spectrum

Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3792$ $y = 0.3794$ / $u' = 0.2232$ $v' = 0.5026$ ($duv=1.60e-03$) $Dx, Dy: 0.0010, 0.0041$

CCT= 4053K Prcp WL: $L_d=578.0nm$ Purity=27.6%

Peak WL: $L_p=450nm$ FWHM: $\approx 25.1nm$ Ratio: R=18.1% G=77.9% B=4.0%

Render Index: $R_a = 83.6$

R1 =82 R2 =91 R3 =96 R4 =82 R5 =82 R6 =88 R7 =85
R8 =63 R9 =4 R10=78 R11=82 R12=69 R13=84 R14=98 R15=74

LEVEL:OUT



Shenzhen Southern LCS Compliance Testing Laboratory Ltd.

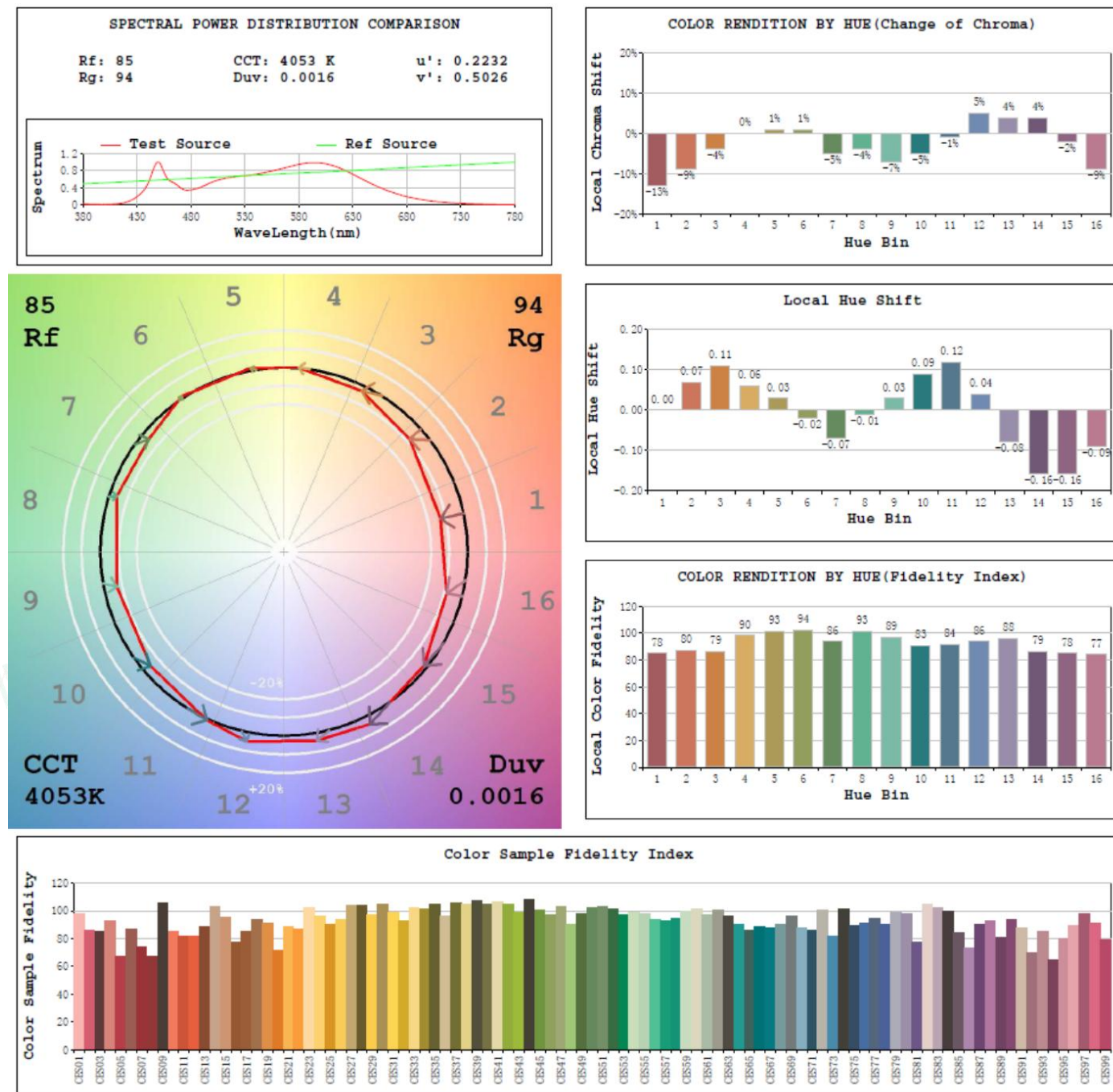
Add: 101-201, No.39 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity



4.3 IES TM-30-18 Color Rendition Result





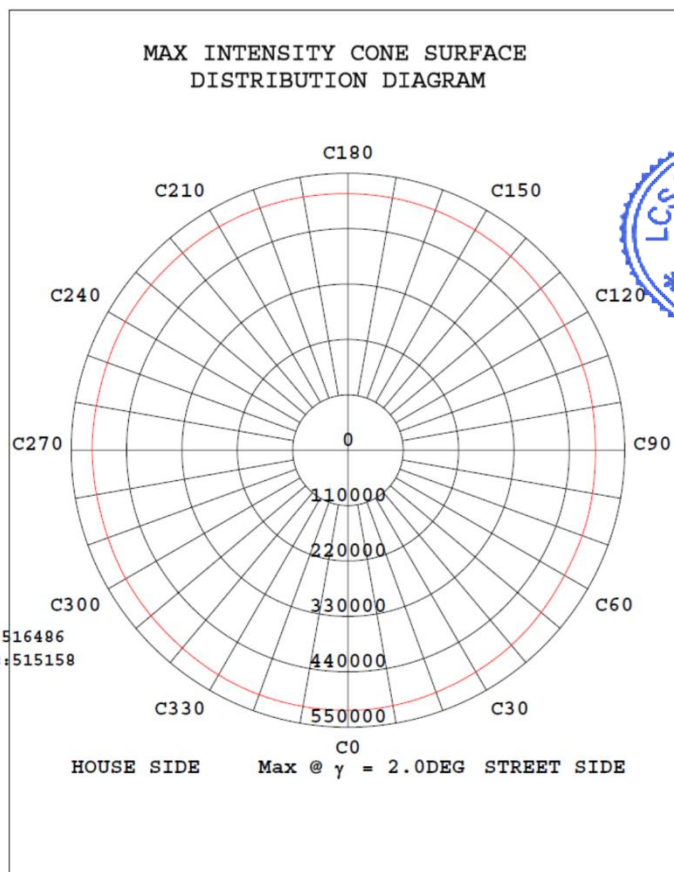
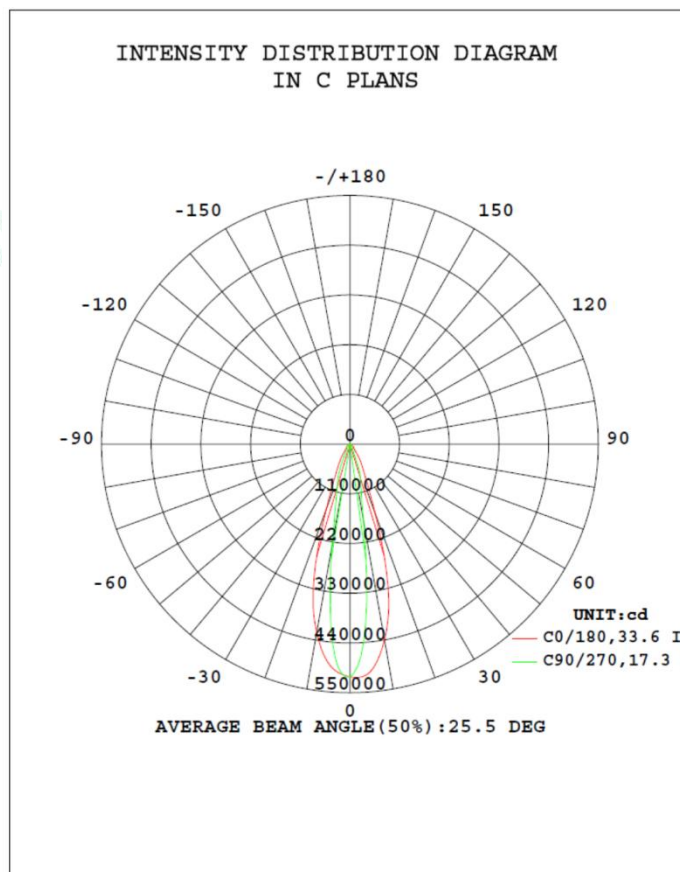
5. Goniophotometer Test results

5.1 Test Data

Test type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	218.9	60.01	5.362	0.9920	1164

Test type	Total Flux (lm)	Luminous efficacy(lm/W)	I _{max} (cd)	ZL (0~90°)	ZL (80~90°)
Output	147897	127.01	516486	100%	0.2%

5.2 Luminous Intensity Distribution Diagram and C0 Plane Isolux Diagram (Unit : lx)





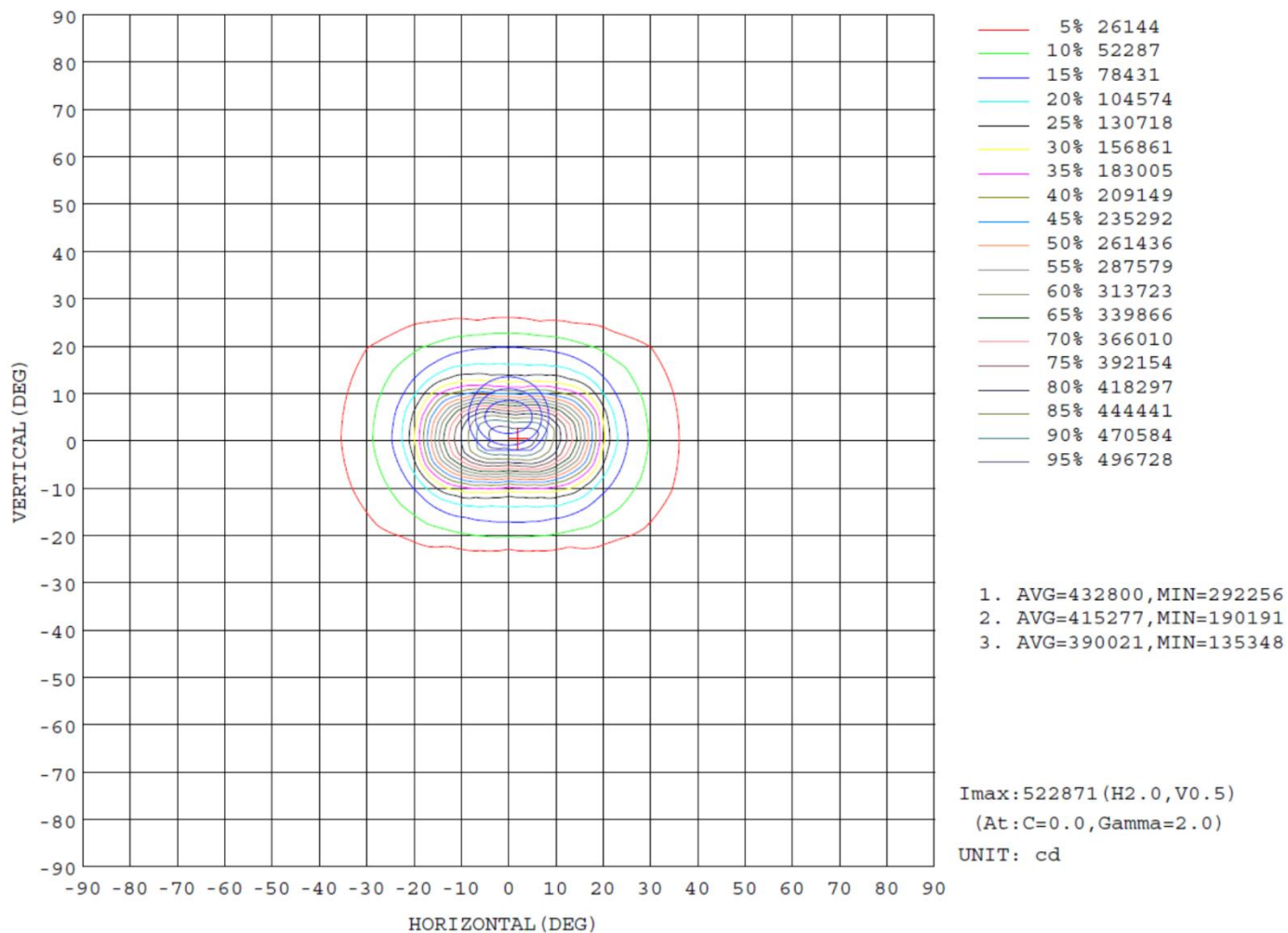
5.3 Zonal Flux Diagram

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum, lamp
10	4403	3090	1744	3033	4235	3647	2308	3542	0~ 10	39818	39818	26.9, 26.9
20	1645	851.5	554.2	819.5	1553	1061	760.6	1067	10~ 20	53583	93401	63.2, 63.2
30	510.6	239.6	134.5	209.0	469.0	351.8	156.1	329.7	20~ 30	25522	118923	80.4, 80.4
40	167.9	102.6	79.94	96.28	155.6	111.9	90.19	109.6	30~ 40	11704	130627	88.3, 88.3
50	104.9	67.84	55.56	63.90	99.73	72.18	61.67	72.04	40~ 50	6904	137531	93, 93
60	58.32	44.77	37.86	42.66	56.33	46.86	43.44	47.44	50~ 60	5334	142865	96.6, 96.6
70	28.69	22.10	18.12	20.81	27.54	23.24	21.26	23.79	60~ 70	3369	146234	98.9, 98.9
80	8.966	5.727	4.095	5.177	8.184	6.053	5.347	6.366	70~ 80	1427	147661	99.8, 99.8
90	0	0	0	0	0	0	0	0	80~ 90	235.4	147897	100, 100
100	0	0	0	0	0	0	0	0	90~100	0	147897	100, 100
110	0	0	0	0	0	0	0	0	100~110	0	147897	100, 100
120	0	0	0	0	0	0	0	0	110~120	0	147897	100, 100
130	0	0	0	0	0	0	0	0	120~130	0	147897	100, 100
140	0	0	0	0	0	0	0	0	130~140	0	147897	100, 100
150	0	0	0	0	0	0	0	0	140~150	0	147897	100, 100
160	0	0	0	0	0	0	0	0	150~160	0	147897	100, 100
170	0	0	0	0	0	0	0	0	160~170	0	147897	100, 100
180	0	0	0	0	0	0	0	0	170~180	0	147897	100, 100
DEG	LUMINOUS INTENSITY: x100cd									UNIT: lm		





5.4 Isocandela Diagram





5.5 BUG Report

IESNA Luminaire Flux Distribution Table:

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	55496	37.5
FM - Front-Medium(30-60)	11367	7.7
FH - Front-High(60-80)	2303.8	1.6
FVH - Front-Very High(80-90)	108.48	0.1
Total Forward Light	69275	46.8

BL - Back-Low(0-30)	63427	42.9
BM - Back-Medium(30-60)	12575	8.5
BH - Back-High(60-80)	2492.5	1.7
BVH - Back-Very High(80-90)	126.94	0.1
Total Back Light	78622	53.2

UL - Uplight-Low(90-100)	0	0.0
UH - Uplight-High(100-180)	0	0.0
Total Up Light	0	0.0

BUG(Back,Up,Glare) Rating	B5-U0-G3
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Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	78622	0	78622
Street Side	69275	0	69275





5.6 Luminous Distribution Intensity Data

Table--1

UNIT: x100cd

C (DEG) γ (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	5147	5147	5147	5147	5147	5147	5147	5147	5147	5147	5147	5147	5147	5147	5147	5147	5147	5147	5147
5	5067	4997	4835	4614	4312	4119	4003	4144	4325	4569	4740	4868	4931	4964	4953	4842	4701	4484	4419
10	4403	4261	3796	3090	2340	1916	1744	1974	2375	3033	3663	4064	4235	4248	4123	3647	3057	2430	2308
15	3269	2941	2190	1517	1139	967	927	970	1147	1516	2190	2799	3091	3014	2671	1964	1467	1200	1151
20	1645	1439	1089	852	699	605	554	607	686	820	1028	1313	1553	1551	1360	1061	882	780	761
25	817	732	626	510	292	205	191	208	287	484	574	651	766	753	700	616	498	342	322
30	511	481	404	240	152	139	134	140	149	209	361	413	469	471	452	352	196	158	156
35	304	291	222	133	114	106	103	106	113	123	188	238	277	276	270	159	130	117	116
40	168	164	124	103	89.8	83.0	79.9	83.4	88.3	96.3	108	130	156	156	147	112	100	92.4	90.2
45	121	114	96.0	82.2	72.8	68.1	65.8	68.1	71.5	77.3	84.3	92.9	113	113	103	88.3	80.6	74.5	73.0
50	105	91.2	79.3	67.8	60.4	57.3	55.6	57.2	59.2	63.9	70.8	76.3	99.7	89.9	83.1	72.2	66.2	62.5	61.7
55	79.2	75.2	66.2	55.9	50.3	47.6	46.7	47.5	49.0	52.8	59.7	64.3	76.5	73.3	68.5	58.9	55.1	52.1	52.1
60	58.3	54.9	50.5	44.8	41.0	38.4	37.9	38.1	39.9	42.7	46.0	47.2	56.3	53.1	52.5	46.9	44.8	42.6	43.4
65	42.0	39.4	36.2	33.3	29.7	28.0	27.7	27.7	28.9	31.8	33.1	33.8	40.5	38.2	37.5	34.8	33.0	30.5	31.8
70	28.7	26.8	24.2	22.1	19.4	18.7	18.1	18.5	19.0	20.8	22.0	22.7	27.5	25.8	25.2	23.2	21.6	20.6	21.3
75	17.6	16.3	14.2	12.8	10.8	10.2	9.71	10.1	10.5	11.9	12.6	13.5	16.7	15.5	15.0	13.5	12.3	11.6	11.7
80	8.97	8.21	6.62	5.73	4.75	4.44	4.09	4.38	4.56	5.18	5.57	6.47	8.18	7.61	7.04	6.05	5.71	5.26	5.35
85	2.75	2.51	1.77	1.52	1.23	1.15	1.06	1.11	1.18	1.30	1.39	1.70	2.43	2.12	1.92	1.63	1.59	1.48	1.53
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00





Table--2

UNIT: x100cd

C(DEG) γ (DEG)	285	300	315	330	345														
0	5147	5147	5147	5147	5147														
5	4422	4622	4803	4981	5057														
10	2361	2928	3542	4135	4358														
15	1189	1442	1906	2678	3155														
20	783	883	1067	1414	1662														
25	329	481	627	718	771														
30	161	187	330	472	495														
35	120	130	147	276	296														
40	93.7	101	110	138	157														
45	75.5	81.8	87.6	96.9	105														
50	63.3	67.2	72.0	79.9	84.0														
55	52.9	55.9	59.2	66.8	69.6														
60	43.2	45.9	47.4	51.8	50.8														
65	31.2	34.0	35.4	37.3	36.3														
70	21.1	22.2	23.8	25.5	24.6														
75	12.0	12.9	13.9	15.1	14.9														
80	5.42	6.06	6.37	7.36	7.53														
85	1.55	1.75	1.83	2.24	2.27														
90	0.00	0.00	0.00	0.00	0.00														
95	0.00	0.00	0.00	0.00	0.00														
100	0.00	0.00	0.00	0.00	0.00														
105	0.00	0.00	0.00	0.00	0.00														
110	0.00	0.00	0.00	0.00	0.00														
115	0.00	0.00	0.00	0.00	0.00														
120	0.00	0.00	0.00	0.00	0.00														
125	0.00	0.00	0.00	0.00	0.00														
130	0.00	0.00	0.00	0.00	0.00														
135	0.00	0.00	0.00	0.00	0.00														
140	0.00	0.00	0.00	0.00	0.00														
145	0.00	0.00	0.00	0.00	0.00														
150	0.00	0.00	0.00	0.00	0.00														
155	0.00	0.00	0.00	0.00	0.00														
160	0.00	0.00	0.00	0.00	0.00														
165	0.00	0.00	0.00	0.00	0.00														
170	0.00	0.00	0.00	0.00	0.00														
175	0.00	0.00	0.00	0.00	0.00														
180	0.00	0.00	0.00	0.00	0.00														





6. Photo of sample

Photo document

Photos of AOK-1200WISF-NV-00-S35-4080-20-U

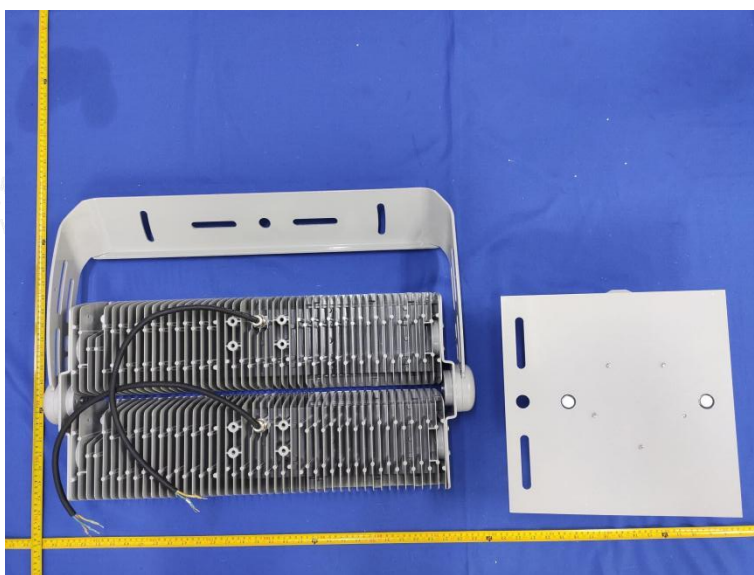
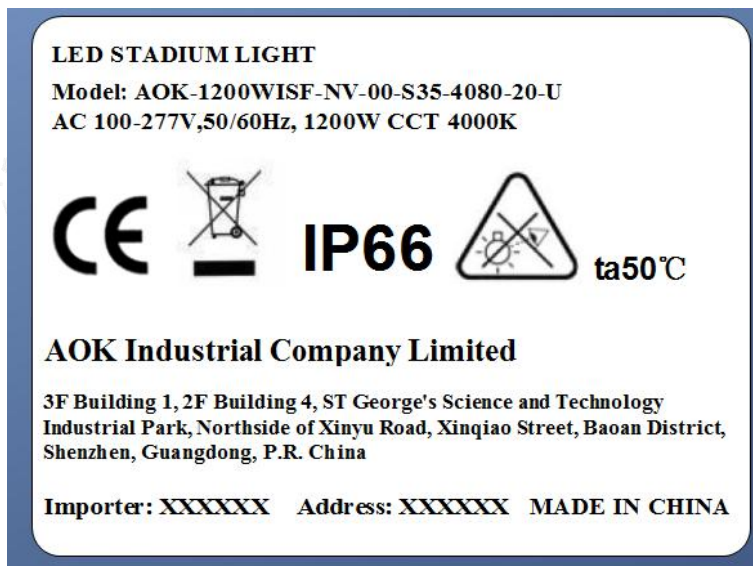




Photo document

Photos of AOK-1200WISF-NV-00-S35-4080-20-U



----- End of test report-----

