




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-S5-4080-35-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

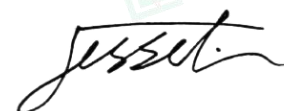
Zero Huang/ Project Engineer

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.





Table of Contents

1. Test Method	3
2. Product Information	4
3. Test equipment list	4
4. Integrating Sphere Test Results	5
4.1 Test Data	5
4.2 Spectrum	5
4.3 IES TM-30-18 Color Rendition Result	6
5. Goniophotometer Test results	7
5.1 Test Data	7
5.2 Luminous Intensity Distribution Diagram and C0 Plane Isolux Diagram (Unit : lx)	7
5.3 Zonal Flux Diagram	8
5.4 Isocandela Diagram	9
5.5 BUG Report	10
5.6 Luminous Distribution Intensity Data	11
6. Photo of sample	13





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.</p> <p>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-S5-4080-35-U
Rated Inputs.....	AC100-277V
Rated Power.....	1200W
Declared CCT.....	4000K
LED Manufacturer.....	Seoul Semiconductor Co., LTD
LED Model.....	S1W0-5050408006-W2Z03S-00002
LED Package, Array or Module.....	2(10P25S+2); 504pcs LED chip(s)
Forward current of the LED chip.....	500mA
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

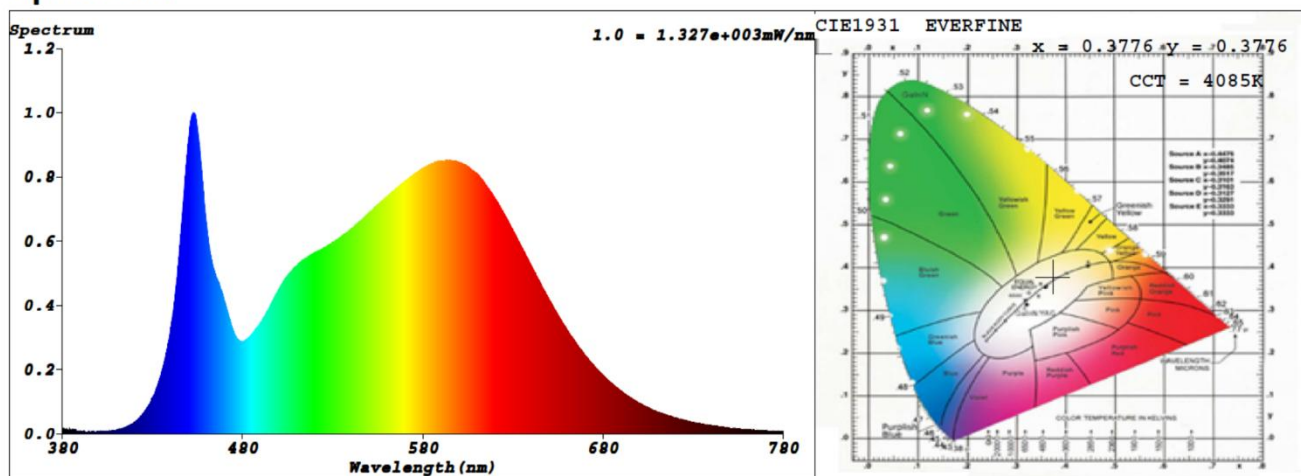
Test type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	220.01	59.99	5.389	0.9918	1176

Luminous flux (lm)	Luminous efficacy (lm/W)	CCT (K)	x	y	u'	v'
165275	140.54	4085	0.3776	0.3776	0.2229	0.5015

Duv	CRI	R9	Rf	Rg	IES Rcs	THD(A)
1.24e-03	83.5	8	85	94	-13%	6.95%

4.2 Spectrum

Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3776$ $y = 0.3776$ / $u' = 0.2229$ $v' = 0.5015$ (duv=1.24e-03) Dx,Dy:0.0008,0.0031

CCT= 4085K Prcp WL: Ld=578.0nm Purity=26.6%

Peak WL: Lp=453nm FWHM: =21.0nm Ratio:R=18.1% G=77.9% B=4.0%

Render Index: Ra = 83.5

R1 =82 R2 =91 R3 =96 R4 =81 R5 =82 R6 =87 R7 =86
R8 =64 R9 =8 R10=78 R11=80 R12=63 R13=84 R14=98 R15=75

LEVEL:OUT



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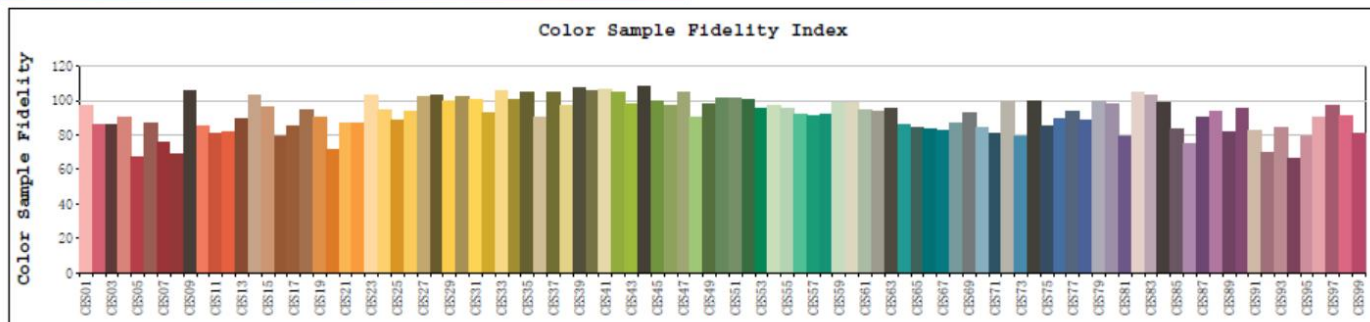
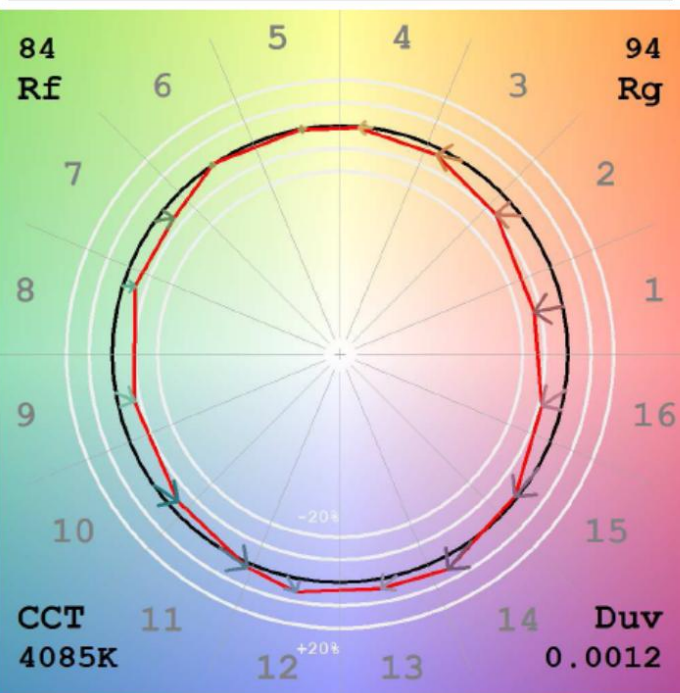
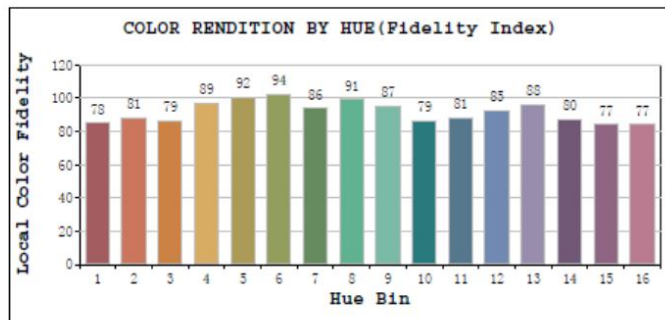
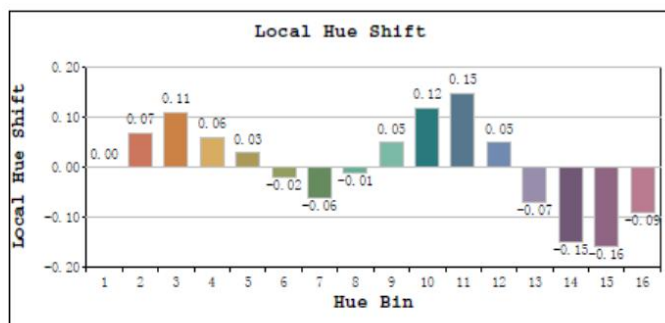
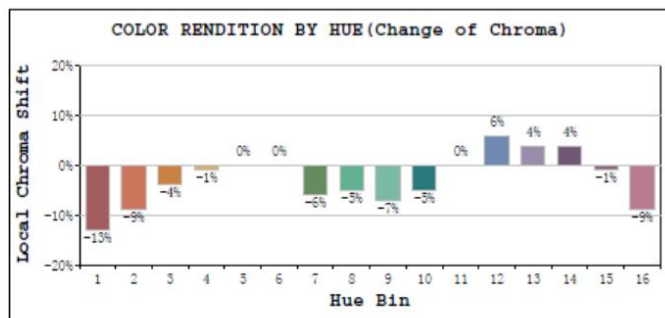
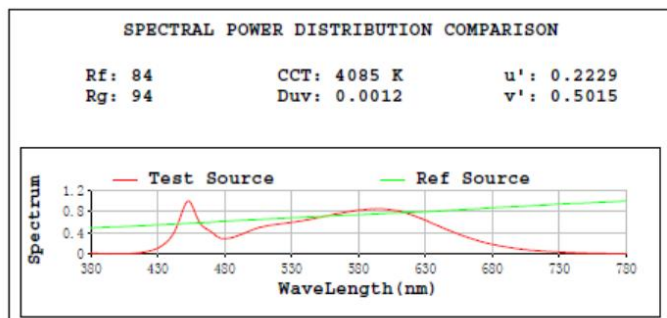
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Scan code to check authenticity



4.3 IES TM-30-18 Color Rendition Result





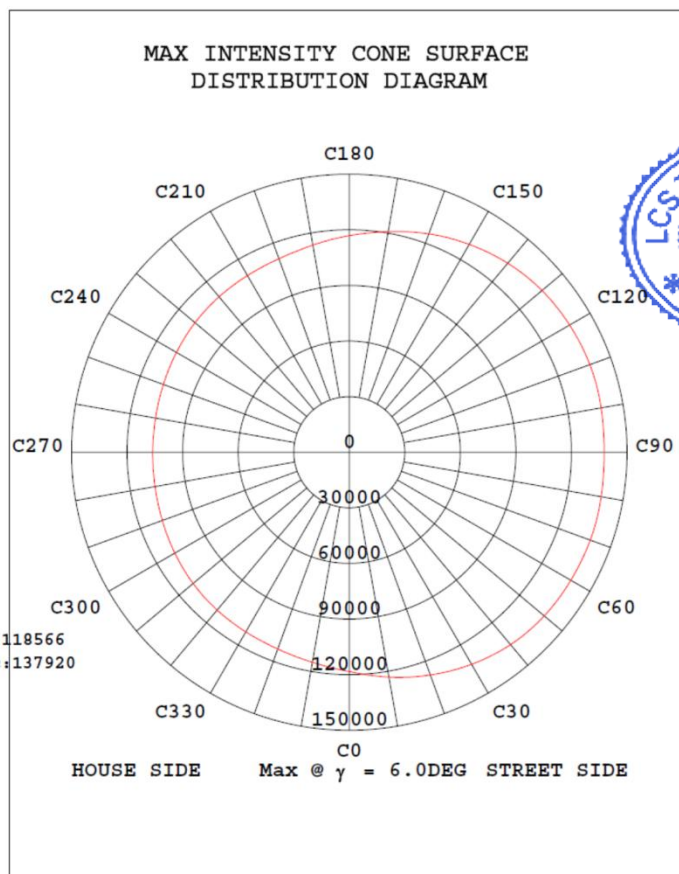
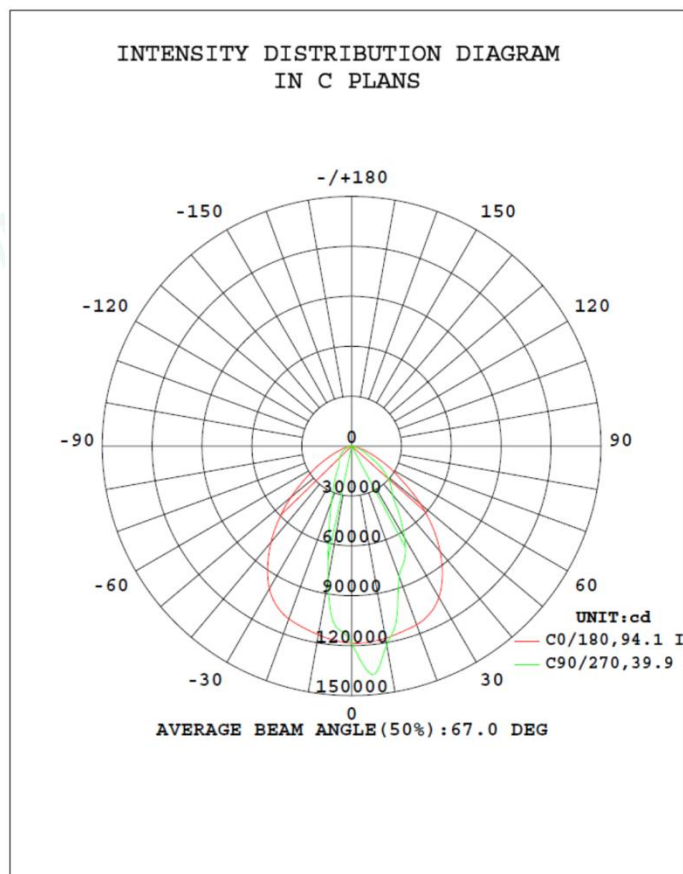
5. Goniophotometer Test results

5.1 Test Data

Test type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	219.0	60.01	5.352	0.9919	1163

Test type	Total Flux (lm)	Luminous efficacy(lm/W)	I _{max} (cd)	ZL (0~90°)	ZL (80~90°)
Output	163499	140.63	138410	100%	0.4%

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	Φ lum, lamp
10	1173	1317	1214	1346	1152	991.0	819.0	1006	0- 10	11321	11321	6.92, 6.92
20	1143	1020	836.1	1064	1105	498.6	353.7	555.7	10- 20	27374	38695	23.7, 23.7
30	1051	718.7	636.3	766.6	990.5	242.3	179.3	300.2	20- 30	32923	71618	43.8, 43.8
40	829.3	607.6	383.6	634.0	756.3	116.8	117.4	165.5	30- 40	31801	103420	63.3, 63.3
50	540.3	396.7	273.6	421.2	475.1	88.74	90.12	116.1	40- 50	26270	129690	79.3, 79.3
60	267.6	231.1	121.8	245.0	229.1	63.21	60.33	81.41	50- 60	18790	148480	90.8, 90.8
70	100.1	73.91	46.94	89.86	79.68	33.85	33.40	46.39	60- 70	10386	158865	97.2, 97.2
80	20.15	13.27	10.19	20.10	16.02	11.06	11.66	16.50	70- 80	4011	162877	99.6, 99.6
90	0	0	0	0	0	0	0	0	80- 90	622.3	163499	100, 100
100	0	0	0	0	0	0	0	0	90-100	0	163499	100, 100
110	0	0	0	0	0	0	0	0	100-110	0	163499	100, 100
120	0	0	0	0	0	0	0	0	110-120	0	163499	100, 100
130	0	0	0	0	0	0	0	0	120-130	0	163499	100, 100
140	0	0	0	0	0	0	0	0	130-140	0	163499	100, 100
150	0	0	0	0	0	0	0	0	140-150	0	163499	100, 100
160	0	0	0	0	0	0	0	0	150-160	0	163499	100, 100
170	0	0	0	0	0	0	0	0	160-170	0	163499	100, 100
180	0	0	0	0	0	0	0	0	170-180	0	163499	100, 100
DEG	LUMINOUS INTENSITY: x100cd									UNIT: lm		



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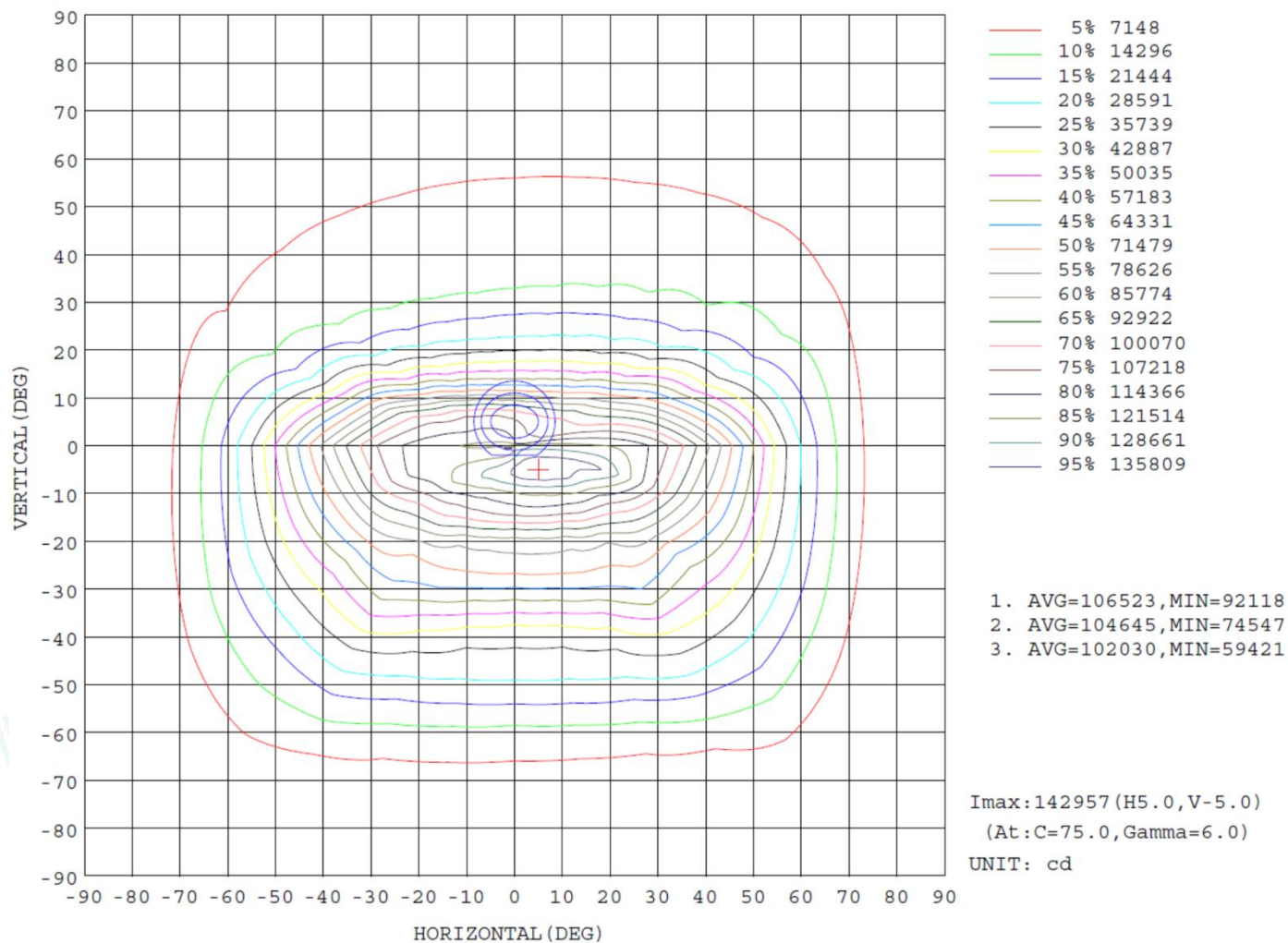
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5.4 Isocandela Diagram





5.5 BUG Report

IESNA Luminaire Flux Distribution Table:

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	43651	26.7
FM - Front-Medium(30-60)	54095	33.1
FH - Front-High(60-80)	9530.5	5.8
FVH - Front-Very High(80-90)	294.23	0.2
Total Forward Light	1.0757e+005	65.8

BL - Back-Low(0-30)	27967	17.1
BM - Back-Medium(30-60)	22766	13.9
BH - Back-High(60-80)	4866.7	3.0
BVH - Back-Very High(80-90)	328.06	0.2
Total Back Light	55928	34.2

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-G4
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Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	55928	0	55928
Street Side	1.0757e+005	0	1.0757e+005





5.6 Luminous Distribution Intensity Data

Table--1

UNIT: ×100cd

C (DEG) γ (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184
5	1184	1245	1301	1344	1368	1382	1379	1374	1354	1323	1277	1224	1172	1130	1109	1101	1094	1091	1090
10	1173	1292	1363	1317	1246	1226	1214	1238	1270	1346	1344	1255	1152	1090	1062	991	903	832	819
15	1157	1310	1244	1149	1101	1074	1057	1093	1126	1186	1284	1270	1129	1050	934	730	600	534	528
20	1143	1273	1099	1020	894	847	836	871	942	1064	1143	1253	1105	988	728	499	406	358	354
25	1112	1161	982	834	761	757	753	773	792	907	1014	1181	1063	879	523	347	274	246	248
30	1051	1024	870	719	695	654	636	675	730	767	904	1051	991	725	368	242	199	178	179
35	952	882	738	677	585	520	500	540	631	705	787	893	883	543	257	174	134	126	132
40	829	745	612	608	464	395	384	415	504	634	652	749	756	379	179	117	108	112	117
45	689	626	523	502	369	337	334	349	405	533	535	621	617	257	121	98.9	98.2	100	104
50	540	506	445	397	311	280	274	290	330	421	436	494	475	173	93.0	88.7	85.8	87.5	90.1
55	386	384	359	319	240	209	201	218	252	329	342	373	336	118	81.2	75.5	72.6	73.4	74.6
60	268	282	273	231	162	130	122	140	175	245	249	277	229	84.0	68.5	63.2	59.4	59.1	60.3
65	171	197	198	146	89.5	79.8	78.2	87.3	102	161	181	191	140	64.8	54.7	48.4	45.9	44.6	46.0
70	100	119	126	73.9	53.6	48.5	46.9	54.5	63.9	89.9	121	119	79.7	47.3	42.3	33.8	32.3	32.3	33.4
75	51.0	62.0	66.0	36.9	26.2	24.8	25.2	29.1	34.0	48.3	66.4	63.8	40.8	29.6	27.5	21.6	20.4	20.4	21.5
80	20.2	25.3	25.1	13.3	10.1	9.31	10.2	12.0	15.0	20.1	26.2	27.9	16.0	14.0	13.3	11.1	10.8	11.1	11.7
85	5.07	5.17	3.61	2.70	2.22	2.27	1.95	2.60	2.61	4.42	4.78	6.19	3.58	3.75	4.04	4.09	4.50	4.81	5.17
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	1184	1184	1184	1184	1184														
5	1097	1105	1118	1126	1146														
10	842	918	1006	1079	1111														
15	555	634	770	966	1071														
20	380	447	556	789	1017														
25	266	314	409	604	930														
30	197	236	300	453	805														
35	141	170	228	336	648														
40	123	133	165	250	492														
45	110	118	132	185	364														
50	95.3	102	116	139	264														
55	79.8	86.0	97.9	116	193														
60	64.6	70.5	81.4	97.1	142														
65	48.9	55.1	64.0	77.4	104														
70	35.6	39.6	46.4	58.8	75.3														
75	22.9	25.8	30.2	40.4	49.0														
80	12.6	14.4	16.5	21.8	26.0														
85	5.42	5.92	6.41	7.67	9.06														
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-S5-4080-35-U

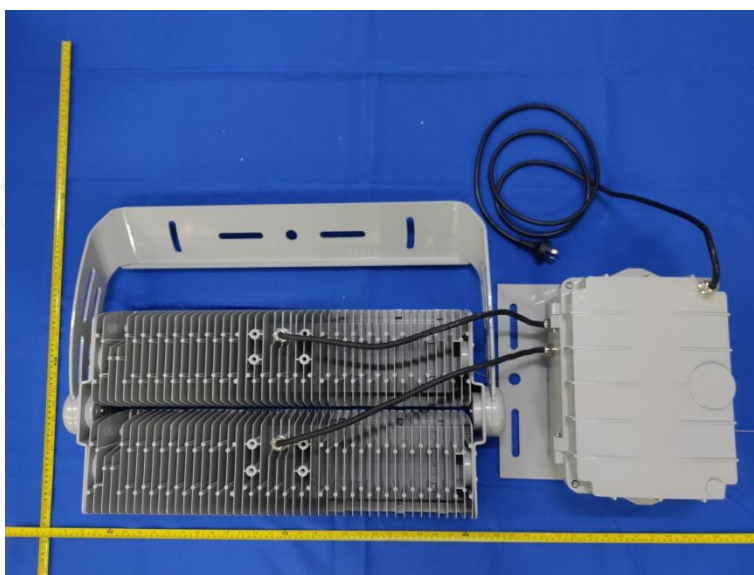
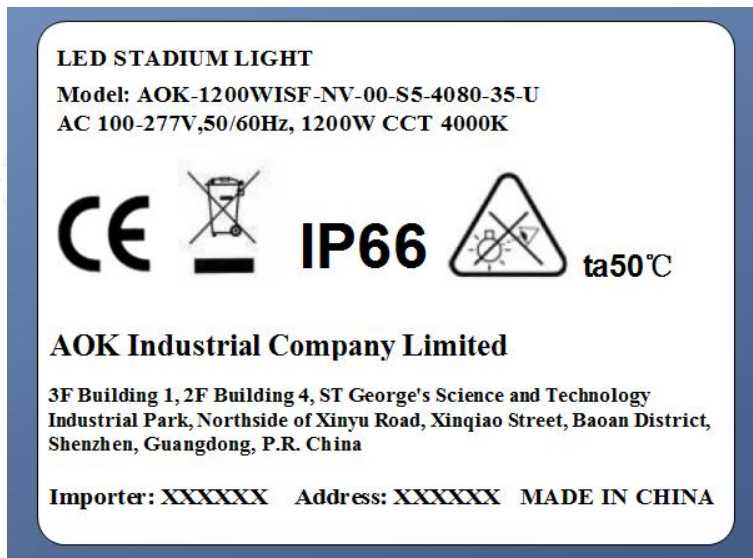




Photo document

Photos of AOK-1200WISF-NV-00-S5-4080-35-U



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

