





TEST REPORT

Of IES LM-79-08

Kunde: <i>Client:</i>	AOK INDUSTRIAL COMPANY LIMITED
Adresse: <i>Address:</i>	1# Building, Sans Souci Technology Industrial Park, Shajin street, Shenzhen city, Guangdong Provice, China.
Hersteller: <i>Manufacturer:</i>	AOK INDUSTRIAL COMPANY LIMITED
Adresse: <i>Address:</i>	1# Building, Sans Souci Technology Industrial Park, Shajin street, Shenzhen city, Guangdong Provice, China.
Name der Marke: <i>Brand Name:</i>	AOK
Beschreibung des Produkts: <i>Product Description:</i>	LED Flood Light (Sport Light)
Modelle: <i>Models:</i>	AOK-720WiNS-NV-L5-00-4080-60-B
Bewertung: <i>Rating:</i>	100-277Vac, 50/60Hz, 720W, 4000K
Verfahren: <i>Method:</i>	IES LM-79-08: Approved Method for Electrical and Photometric Measurements of Solid-State Lighting Products
Prüfergebnis*: <i>Test result*:</i>	N/A

Datum der Prüfung: <i>Date of Test:</i>	Datum der Emission: <i>Date of Issue:</i>	Klassifizierung: <i>Classification:</i>	Gegenstand der Prüfung: <i>Test item:</i>
2020-12-30 - 2021-01-05	2021-01-05	Commission Test	IES LM-79-08

Prüflabor (Testlabor) / Testing Laboratory:
Shenzhen Southern LCS Compliance Testing Laboratory Ltd.

Test von/Test by: William Lian William Lian/ Project Engineer	Check von/Check by:  Ian Luo/ Director	Genehmigt von/Approved by:  Jesse Liu/ Manager
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1. Test Method

Test Item.....	: Integrating Sphere Test
Ambient Condition	: 25.1°C
Stabilization time(h):	0.5h
Orientation(burning position) of SSL product during test	down
Test Method	The sample was tested according to the IES LM-79-2008. 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.
Test Item.....	: Goniophotometer Test
Ambient Condition.....	: 25.1°C
Total operated time of the product for measurements including stabilization..... (h):	1.0h
Orientation(burning position) of SSL product during test	down
Test Method.....	The sample was tested according to the IES LM-79-2008. 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 26m 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 22.5 ° horizontal intervals.



2. Product Information

Product description.....:	LED Flood Light (Sport Light)
Model Number.....:	AOK-720WiNS-NV-L5-00-4080-60-B
Rated Inputs.....:	100-277Vac,50/60Hz
Rated Power.....:	720W
Declared CCT.....:	4000K
LED Manufacturer.....:	LUMILEDS
LED Model.....:	L150-4080502400000
Forward current of the LED chip.....:	200mA
LED Driver.....:	INVENTRONICS (EUD-600S560DV & EUK-200S560DV)
LED Driver Set Current.....:	3.7A
SPD.....:	SHENZHEN ZHONGYUAN TECHNOLOGY (ZYS-S20WLED)
Number of LEDs.....:	472 LEDs
LED package current.....:	63mA
Date of Receipt Samples.....:	December 29, 2020
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	2020/07/02	2021/07/01
EVERFINE	Digital Power Meter	SLCS-S-103	PF2010	2020/06/24	2021/06/23
EVERFINE	AC Testing Power Source	SLCS-S-115	DPS1060	2020/06/24	2021/06/23
EVERFINE	Total Spectral Radiant Flux Standard Lamp	SLCS-S-143	D908S	2020/07/02	2021/07/01
SENSING	2 Meter Integrating Sphere	SLCS-S-038	SPR-3000	2020/07/02	2021/07/01
YOKOGAWA	Digital Power Meter	SLCS-S-058	WT310	2020/06/24	2021/06/23
ALL POWER ELECTRONIC	AC Testing Power Source	SLCS-S-111	APW-105N	2020/06/24	2021/06/23
SENSING	Standard Lamp	SLCS-S-118	S11010017	2020/07/02	2021/07/01



4. Integrating Sphere Test Results

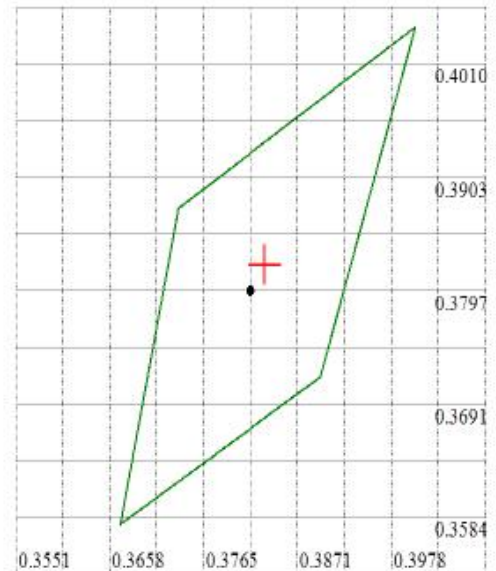
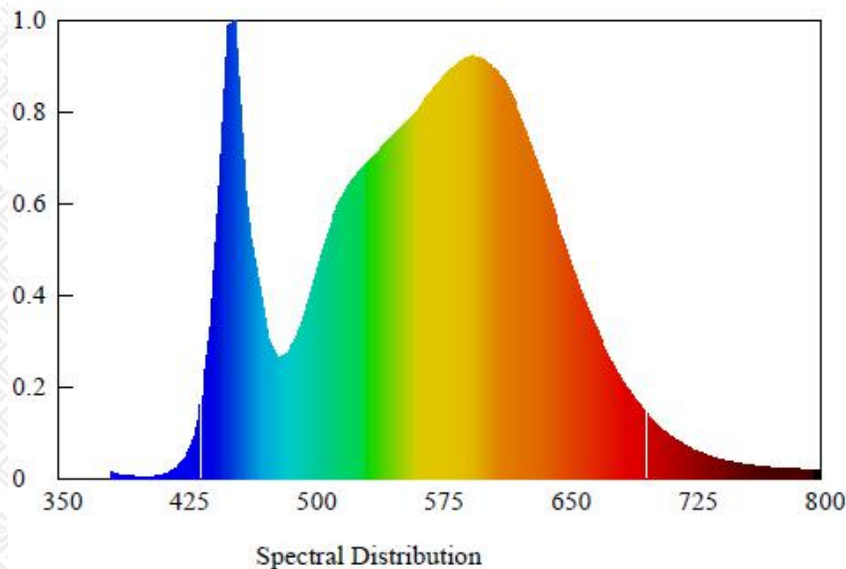
4.1 Test Data

Test type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	220.05	60.0	3.3195	0.9936	725.79

Test type	CCT (K)	CRI	Duv	Luminous flux (lm)	Luminous efficacy(lm/W)
Output	3960	83.8	0.00161	111633.20	153.8

4.2 Spectrum

Spectroradiometric Parameters



Chromaticity Coordinates: $x=0.3834$ $y=0.3821$ $u'=0.2249$ $v'=0.5044$

Correlated Color Temperature: 3960 K

Colour Fidelity Index: $R_f=82$

Luminous Flux: 111633.20 lm

Chromaticity Difference: +0.00161Duv

Color Ratio: $K_r=38.0\%$ $K_g=52.7\%$ $K_b=9.3\%$

Bandwidth: 26.2nm

Photosynthetically Active Radiation(PAR): 289.82W

Rendering Index: $R_a=83.8$

$R_1=82$ $R_2=90$ $R_3=95$ $R_4=83$ $R_5=82$ $R_6=85$ $R_7=87$ $R_8=67$

$R_9=15$ $R_{10}=75$ $R_{11}=81$ $R_{12}=59$ $R_{13}=85$ $R_{14}=97$ $R_{15}=77$ $R_e=77$

Dominant Wavelength: 577.0 nm(E)

Gamut Index: $R_g=95$

Purity: 0.2975

Peak Wavelength: 455.0 nm

Radiant Flux: 298.09 W

Photosynthetic Photon Flux(PPF):1370.79 μ mol/s



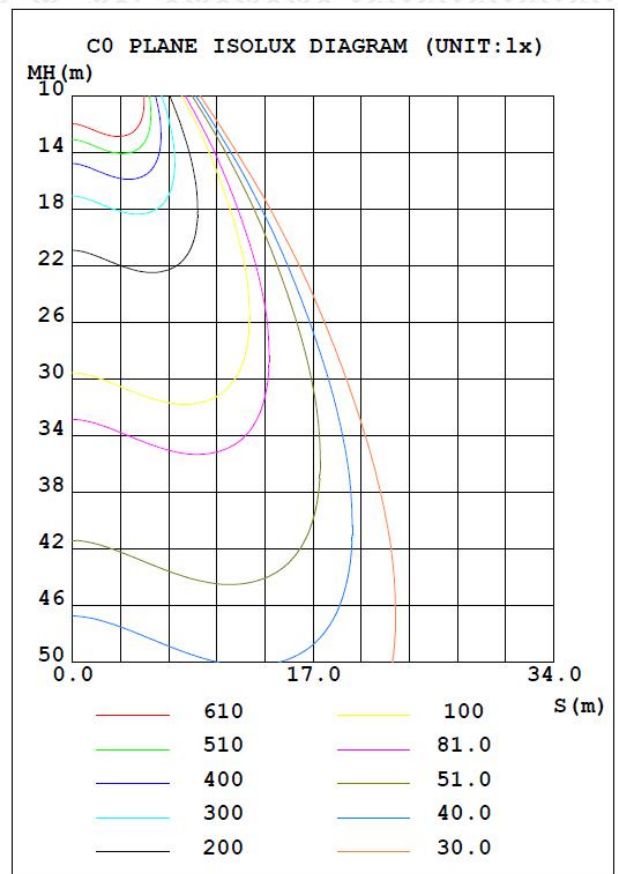
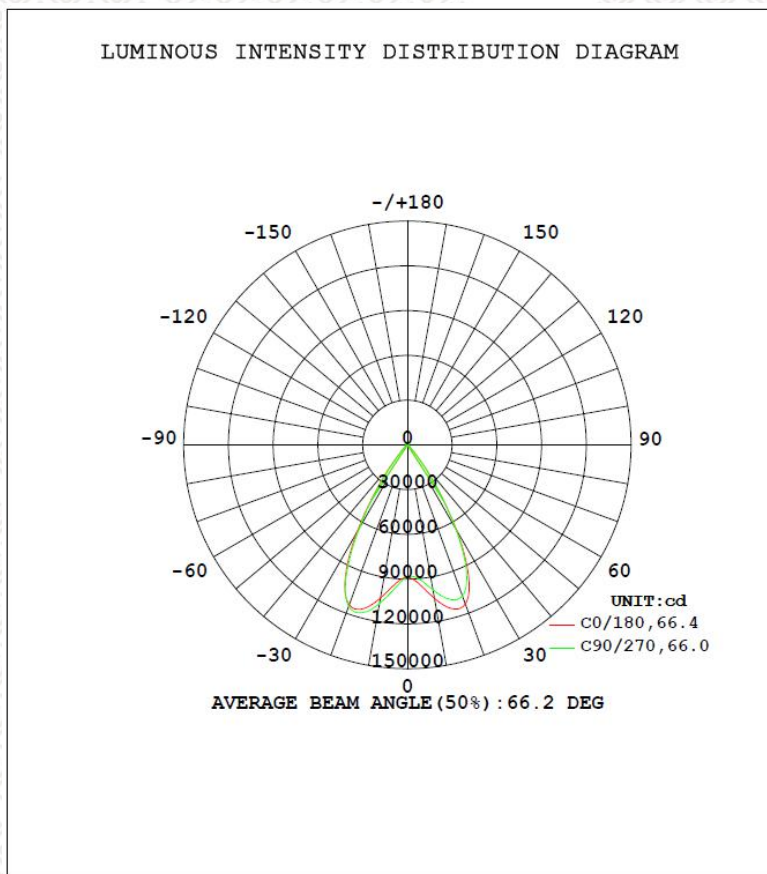
5. Goniophotometer Test results

5.1 Test Data

Test type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	220.01	60.01	3.3195	0.9937	725.76

Test type	Total Flux (lm)	Luminous efficacy(lm/W)	Imax (cd)	Spacing Criteria (0~180°)	Spacing Criteria (90~270°)
Output	111654	153.84	117403	0.96	0.95

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



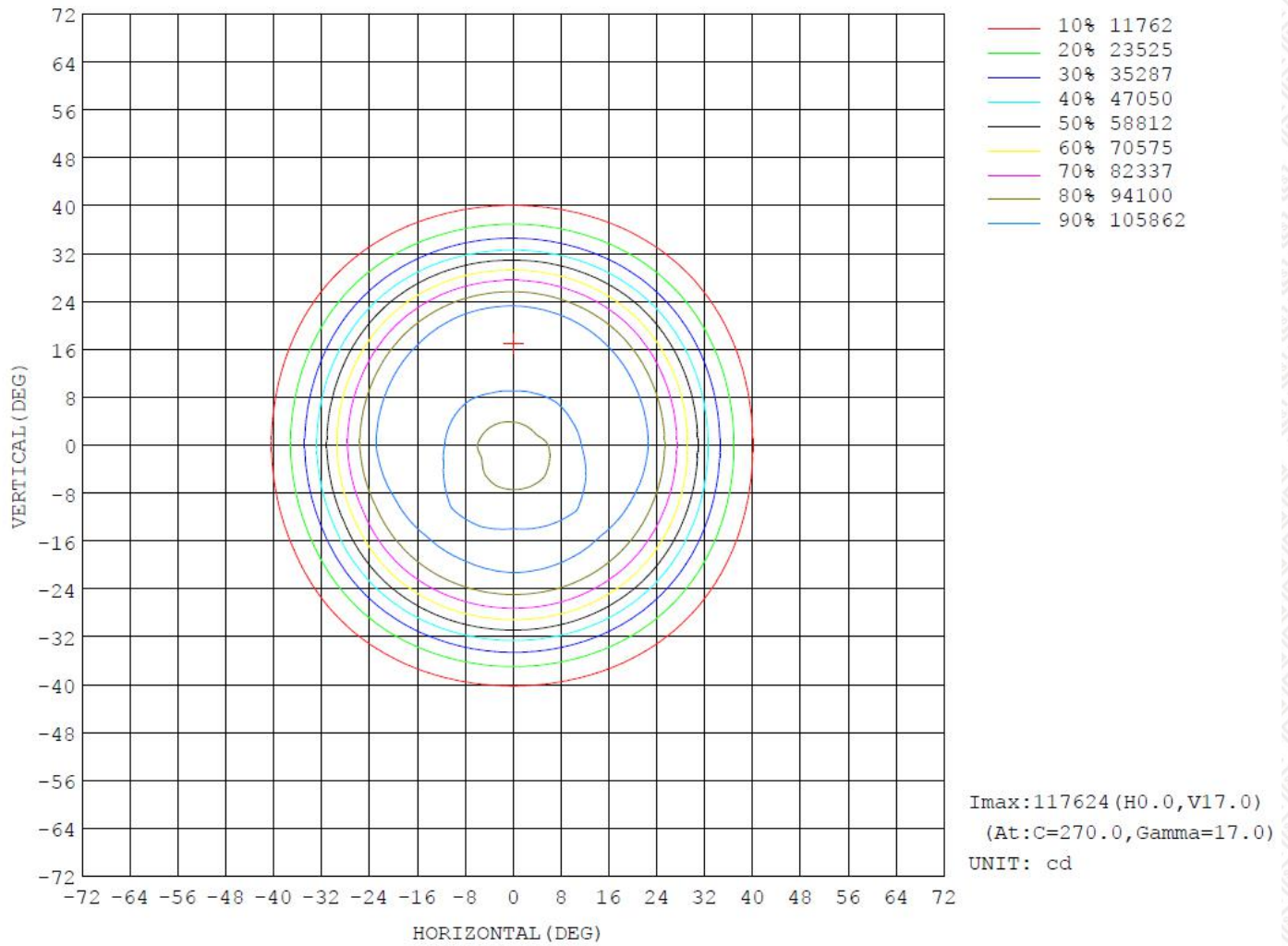


5.3 Zonal Flux Diagram

γ	c0	c45	c90	c135	c180	c225	c270	c315	γ	Φ zone	Φ total	$\%lum, lamp$
10	1043	989.4	986.4	980.6	1042	1057	1079	1046	0- 10	9212	9212	8.25, 8.25
20	1136	1076	1077	1059	1141	1135	1152	1111	10- 20	31120	40333	36.1, 36.1
30	656.4	661.1	648.5	647.0	679.3	671.6	648.5	648.5	20- 30	42453	82786	74.1, 74.1
40	120.3	121.3	123.5	119.9	130.8	121.0	117.9	115.5	30- 40	21319	104105	93.2, 93.2
50	21.94	21.31	22.23	21.04	22.66	21.39	21.59	21.13	40- 50	3792	107897	96.6, 96.6
60	14.72	13.82	14.52	13.60	15.05	13.86	14.54	13.56	50- 60	1540	109437	98, 98
70	8.780	8.164	8.623	8.041	8.954	8.165	8.634	8.003	60- 70	1046	110483	99, 99
80	4.291	3.984	4.269	3.927	4.551	3.958	4.111	3.875	70- 80	662.4	111145	99.5, 99.5
90	0.0431	0.0469	0.0488	0.0406	0.0790	0.0317	0.0345	0.0403	80- 90	172.6	111318	99.7, 99.7
100	0.0327	0.0318	0.0322	0.0305	0.0386	0.0340	0.0354	0.0347	90-100	4.107	111322	99.7, 99.7
110	0.0318	0.0322	0.0312	0.0309	0.0431	0.0428	0.0455	0.0429	100-110	3.723	111326	99.7, 99.7
120	0.0606	0.0522	0.0477	0.0489	0.0727	0.0752	0.0739	0.0803	110-120	4.565	111330	99.7, 99.7
130	0.2976	0.2762	0.2698	0.2288	0.3024	0.3037	0.2218	0.3405	120-130	12.75	111343	99.7, 99.7
140	0.9018	0.7457	0.7671	0.7480	0.9276	0.8393	0.8892	0.8869	130-140	42.41	111385	99.8, 99.8
150	1.789	1.708	1.739	1.781	1.588	1.543	1.491	1.498	140-150	77.76	111463	99.8, 99.8
160	2.220	2.292	2.333	2.282	2.238	2.207	2.190	2.189	150-160	90.61	111554	99.9, 99.9
170	2.965	3.046	2.977	2.971	2.684	2.852	2.751	2.823	160-170	70.50	111624	100, 100
180	3.406	3.328	3.123	3.246	3.413	3.619	3.170	3.131	170-180	29.41	111654	100, 100
DEG	LUMINOUS INTENSITY: $\times 100cd$									UNIT: lm		



5.4 Isocandela Diagram





5.5 Luminous Distribution Intensity Data

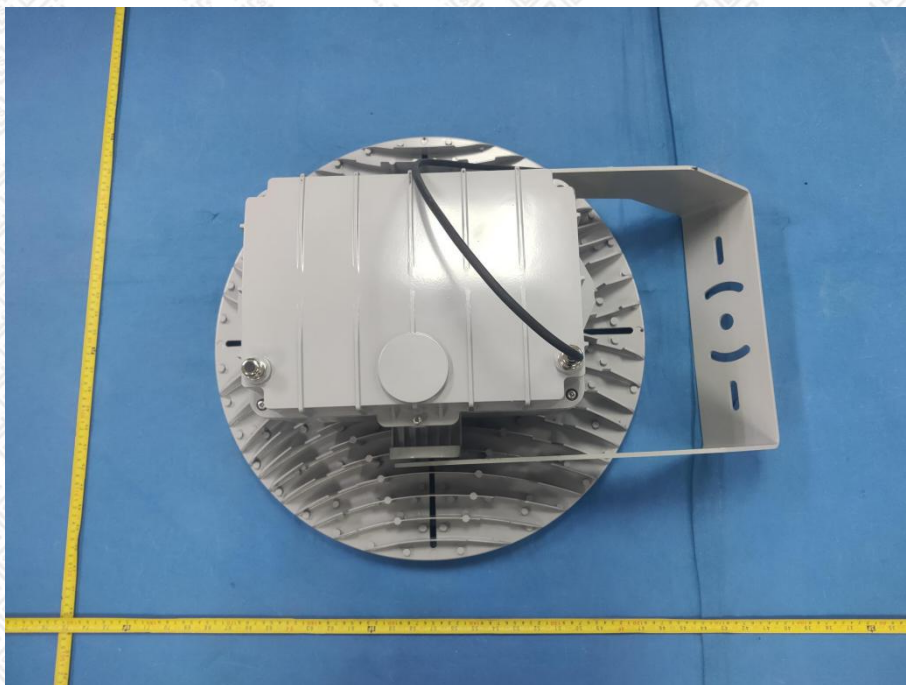
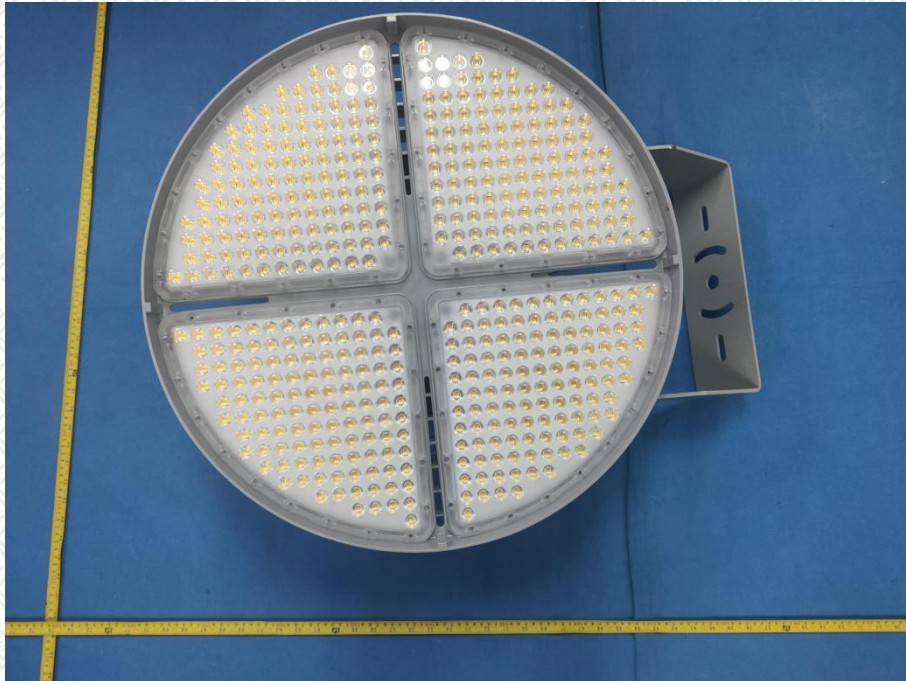
Table--1 UNIT: ×100cd

C (DEG) y (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	886	886	886	886	886	886	886	886	886	886	886	886	886	886	886	886			
5	938	924	912	906	903	902	908	919	935	945	954	960	963	959	951	940			
10	1043	1013	989	988	986	979	981	1002	1042	1049	1057	1075	1079	1066	1046	1034			
15	1135	1094	1063	1067	1070	1057	1051	1074	1136	1133	1136	1157	1164	1143	1117	1108			
20	1136	1100	1076	1076	1077	1064	1059	1074	1141	1136	1135	1149	1152	1132	1111	1102			
25	971	957	951	945	938	933	931	930	989	984	983	982	975	963	955	945			
30	656	657	661	655	649	647	647	637	679	674	672	661	649	646	648	641			
35	333	332	332	333	332	327	326	322	350	342	336	331	328	323	322	322			
40	120	121	121	122	124	122	120	117	131	126	121	118	118	116	115	117			
45	39.4	39.9	40.2	40.0	41.0	40.7	39.7	38.4	45.3	40.3	38.7	37.1	37.5	37.0	37.1	37.2			
50	21.9	21.4	21.3	20.9	22.2	21.8	21.0	20.5	22.7	21.8	21.4	20.8	21.6	21.1	21.1	20.8			
55	17.5	16.9	16.7	16.5	16.9	16.6	16.6	16.5	17.7	17.3	17.2	17.2	17.6	17.2	17.0	16.8			
60	14.7	14.2	13.8	14.1	14.5	13.9	13.6	13.7	15.0	14.3	13.9	14.0	14.5	13.9	13.6	13.8			
65	10.9	10.3	9.88	10.0	10.7	10.1	9.70	9.85	11.1	10.3	9.85	10.01	10.7	10.1	9.68	9.83			
70	8.78	8.23	8.16	8.05	8.62	8.06	8.04	7.94	8.95	8.24	8.17	8.05	8.63	8.02	8.00	7.95			
75	6.69	6.40	6.13	6.20	6.57	6.25	6.05	6.15	6.88	6.44	6.15	6.20	6.54	6.20	6.03	6.19			
80	4.29	4.21	3.98	4.09	4.27	4.12	3.93	4.05	4.55	4.26	3.96	4.00	4.11	3.98	3.87	4.09			
85	1.34	1.43	1.45	1.42	1.38	1.41	1.37	1.32	1.46	1.40	1.34	1.27	1.24	1.26	1.33	1.41			
90	0.04	0.04	0.05	0.06	0.05	0.04	0.04	0.04	0.08	0.03	0.03	0.03	0.03	0.08	0.04	0.08			
95	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.05	0.03	0.03	0.03	0.03	0.04	0.04	0.06			
100	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.03			
105	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04			
110	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.04	0.04	0.04			
115	0.04	0.04	0.03	0.04	0.04	0.03	0.03	0.04	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.05			
120	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.07	0.07	0.08	0.08	0.07	0.08	0.08	0.08			
125	0.14	0.13	0.12	0.12	0.13	0.10	0.11	0.12	0.14	0.15	0.14	0.10	0.13	0.11	0.16	0.16			
130	0.30	0.31	0.28	0.29	0.27	0.23	0.23	0.28	0.30	0.33	0.30	0.26	0.22	0.26	0.34	0.34			
135	0.56	0.53	0.49	0.54	0.51	0.46	0.38	0.53	0.58	0.61	0.53	0.58	0.61	0.61	0.59	0.62			
140	0.90	0.86	0.75	0.91	0.77	0.77	0.75	0.83	0.93	0.92	0.84	0.94	0.89	1.02	0.89	0.91			
145	1.33	1.36	1.12	1.30	1.24	1.24	1.24	1.23	1.26	1.26	1.19	1.26	1.23	1.21	1.21	1.23			
150	1.79	1.88	1.71	1.75	1.74	1.74	1.78	1.71	1.59	1.61	1.54	1.58	1.49	1.56	1.50	1.57			
155	2.05	2.15	2.10	2.06	2.08	2.14	2.10	2.00	1.92	1.97	1.95	1.95	1.78	1.91	1.78	1.90			
160	2.22	2.29	2.29	2.29	2.33	2.40	2.28	2.20	2.24	2.23	2.21	2.25	2.19	2.09	2.19	2.16			
165	2.47	2.51	2.57	2.52	2.58	2.59	2.53	2.50	2.44	2.45	2.49	2.48	2.48	2.53	2.50	2.44			
170	2.97	3.01	3.05	2.97	2.98	3.06	2.97	2.99	2.68	2.69	2.85	2.78	2.75	2.70	2.82	2.76			
175	3.39	3.42	3.31	3.22	3.17	3.21	3.24	3.37	3.18	3.16	3.20	3.07	2.97	2.97	3.00	3.14			
180	3.41	3.48	3.33	3.08	3.12	3.17	3.25	3.41	3.41	3.52	3.62	3.32	3.17	3.27	3.13	3.52			

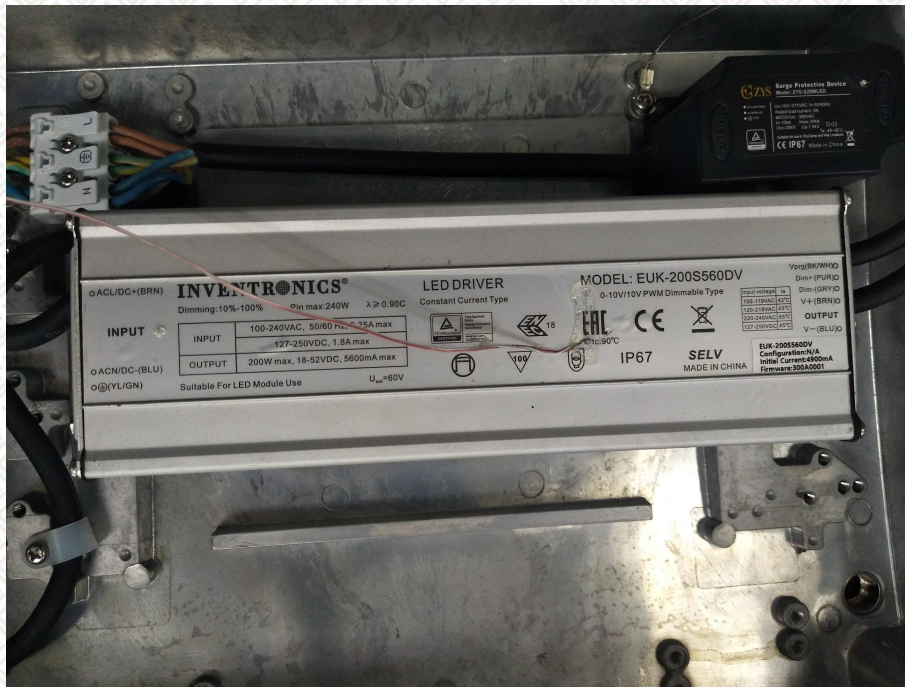


6. Photo of sample

Photo document







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