

# LM-79-08 Test Report

For

## Beyond LED Technology

1939 Parker Court, Stone Mountain, GA 30087

Model Name(s):

BLT-XALH150W50KT3PADP

Representative (Tested) Model:

XALH(80/100/120/150)W50KT3PAD

### Model Difference:

1. Product is wattage tunable product, can be tunable from 80W, 100W, 120W and 150W;
2. XX represents Input Voltage, can be blank for 120-277V, HL for 120-347V or HV for 277-480V;
3. YYK represents CCT, can be 30K for 3000K, 40K for 4000K or 50K for 5000K;
4. TN represents Distribution Type, can be T3 for Type III, T4 for Type IV or T5 for Type V;
5. ZZ represents Mounting Mean, can be SF for Slipfitter Mount, PA for Square and Round Pole Mount Arm, TR for Trunnion Mount or AA for Adjustable Square and Round Pole Mount Arm;
6. # represents Finish Color, can be D for Dark Bronze, B for Black, W for White or SG for Silver Gray;
7. & represents Photocontrol, can be blank for without Photocontrol or P for with Photocontrol;
8. \* represents Motion Sensor, can be blank for without Motion Sensor or S for with Motion Sensor
9. All is the same construction, except Distribution Type, CCT, Finish Color, Function and Model Design.

Prepared by:

*Alan Wang*

Engineer: Alan Wang

Date: 2022-03-02

Reviewed by:

*Vincent Yuan*

Technical Lead: Vincent Yuan

Issue Date: 2022-03-27

Revised Date: N/A

Note:

1. The results contained in this report pertain only to the tested samples.
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3. This report d not imply product certification, approval, or endorsement by NVLAP, or any agency of the Federal Government.

**Laboratory: Dongguan New Testing Centre Co., Ltd**

Address: 3F, No. 1 the 1<sup>st</sup> North Industry Road, Songshan Lake Science & Technology Park, Dongguan, Guangdong, China

Tel: 86-769-22212079

Website: <http://www.ntc-cert.com>

**Client Information:**

Applicant Name:	Beyond LED Technology
Brand Name:	Beyond LED Technology
Manufacturer Name:	Beyond LED Technology
Manufacturer Address:	1939 Parker Court, Stone Mountain, GA 30087

**Product Information:**

Model Number:	BLT-XALH150W50KT3PADP
Product Type:	Outdoor Pole/Arm-Mounted Area and Roadway Luminaires
Rating Input:	120-277Vac, 50/60Hz, 80W/100W/120W/150W
Declared CCT:	5000K
Declared Light Output:	22500 lm
LED Manufacturer:	LUMILEDS
LED Model:	L128-5070RC35001E1
LED Quantity:	216 pcs
LED Driver Manufacturer:	SOSEN
LED Driver Model:	SS-150NL-56B

**Test Information:**

Standard Lamp:	Total Spectral Radiant Flux Standard Lamp, trace to NIST. 1. D908S for Gonio 2. D215S for Integrating Sphere
Date of Receipt Samples:	2022-01-17
Quantity of Receipt Samples:	1 pc
Sample Number:	2201170014-S1
Test Representation:	N/A

**Laboratory Information:**

Test Laboratory:	Dongguan New Testing Centre Co., Ltd
Laboratory Address:	3F, No. 1 the 1 <sup>st</sup> North Industry Road, Songshan Lake Science & Technology Park, Dongguan, Guangdong, China
Laboratory Contact Name:	Neil Zhong
Laboratory Contact E-mail:	<a href="mailto:Neil_zhong@ntc-cert.com">Neil_zhong@ntc-cert.com</a>

**Report Information:**

Test Report Form:	LM-79-08_TRF_V1.5
Issued Date of Test Report:	2022-03-27
Revised Date of Test Report:	N/A
Test Report No.:	NTCLR22020144
Remark (If applicable):	N/A

<b>Test Specification:</b>	
Date of Test	2022-01-12
Test Item	<ol style="list-style-type: none"> <li>1. Total Luminous Flux</li> <li>2. Luminous Distribution Intensity</li> <li>3. Luminous Efficacy</li> <li>4. Correlated Color Temperature</li> <li>5. Color Rendering Index</li> <li>6. Chromaticity Coordinate</li> <li>7. Fidelity Index</li> <li>8. Gamut Index</li> <li>9. Local Chroma Shift</li> <li>10. THD and PF</li> </ol>
Reference Standard	<p>IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products</p> <p>ANSI C78.377-2017 Specifications for the Chromaticity of Solid State Lighting Products</p> <p>CIE 13.3-1995 Method of Measuring and Specifying Color Rendering Properties of Light Sources</p> <p>CIE 15-2004 Technical Report Colorimetry</p> <p>ANSI IES TM-30-18 IES Method for Evaluating Light Source Color Rendition</p> <p>IES TM-15-11 Luminaire Classification System for Outdoor Luminaires</p> <p>Addendum A for IES TM-15-11 Backlight, Uplight, and Glare (BUG) Ratings</p>

<b>Test Methods:</b>
<p><b>1. Photometric and Electrical Measurements – Light Distribution Method:</b></p> <p>Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at <math>25\text{ }^{\circ}\text{C} \pm 1^{\circ}\text{C}</math>, measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at required Voltage and Frequency. It was stabilized before measurement was made. Luminous Flux, Luminaire Efficacy and Zonal Lumen were calculated from the software taken at <math>1^{\circ}</math> vertical intervals and <math>15^{\circ}</math> horizontal intervals.</p>
<p><b>2. Photometric and Electrical Measurements – Integrating Sphere Method:</b></p> <p>Photometric parameters were measured using an integrating sphere, as spectroradiometer and software. The ambient temperature condition inside the sphere was measured at <math>25\text{ }^{\circ}\text{C} \pm 1^{\circ}\text{C}</math>. 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 require Voltage and Frequency. It was stabilized before measurement was made. Chromaticity Coordinates, Correlated Color Temperature and Color Rendering Index were calculated from the spectral radiant flux measurements taken at least 1 nm intervals over the rage of 380 to 780 nm.</p>
<p><b>3. THD and PF Measurements:</b></p> <p>The sample was tested according to the ANSI C82.77, the sample was operated at requirement Voltage and Frequency, and was stabilized before measurement. The Total Harmonic Distortion was calculated from the Digital Power Meter.</p>

**Integrating Sphere Test Results:**

**Test Condition:**

Test Ambient (°C)	Test Humidity (%)	Orientation	Stabilization Time (minute)	Test Time (minute)
25.4	41.0	Face Down	90	10

**Electrical Data:**

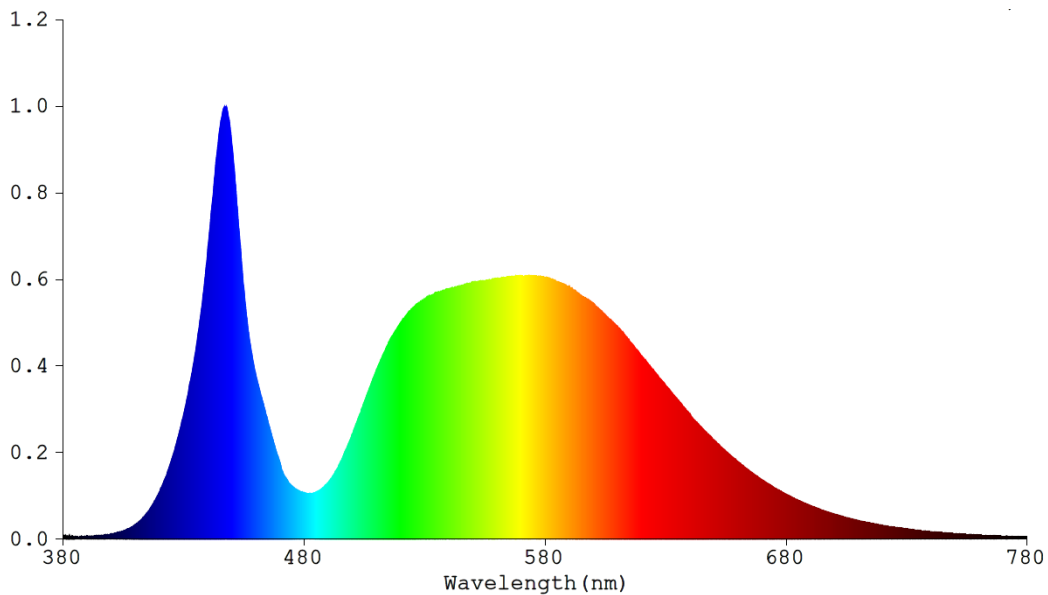
Voltage (V)	Frequency (Hz)	Current (A)	Wattage (W)	Power Factor
120.0	60	1.2361	148.17	0.9989

**Color Data:**

Parameter	Result
CCT(K)	5057
R <sub>a</sub>	72.6
R <sub>f</sub>	74
R <sub>g</sub>	96
R <sub>cs, hl</sub>	-16%
Chromaticity, (x, y)	(0.3443, 0.3602)
Chromaticity, (u', v')	(0.2076, 0.4887)
Duv	0.0046

Specify Color Rendering			
R1	70	R9	-27
R2	76	R10	44
R3	81	R11	73
R4	74	R12	46
R5	72	R13	71
R6	69	R14	89
R7	80	R15	64
R8	58	-	-

**Spectrum Diagram:**

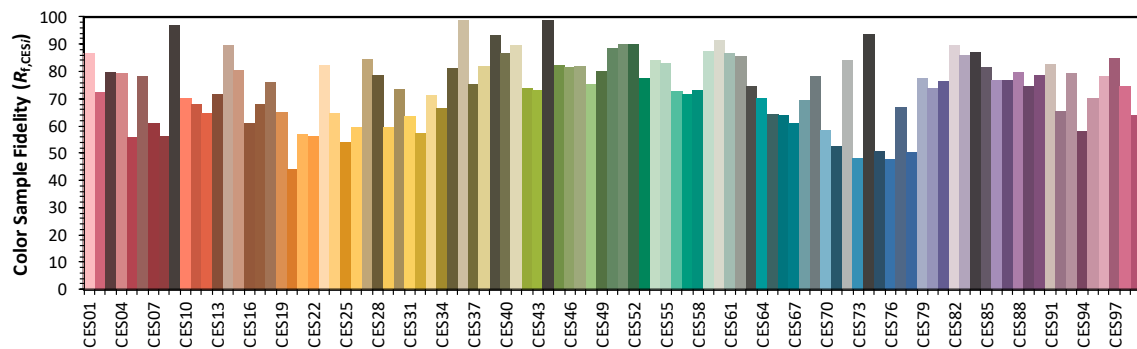
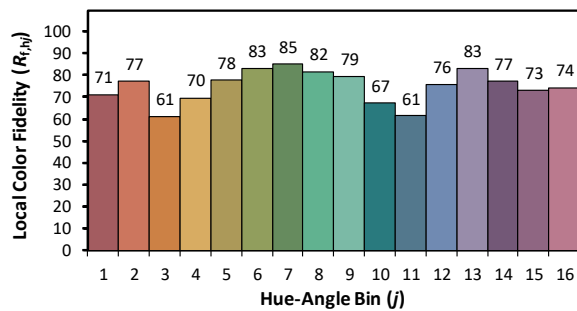
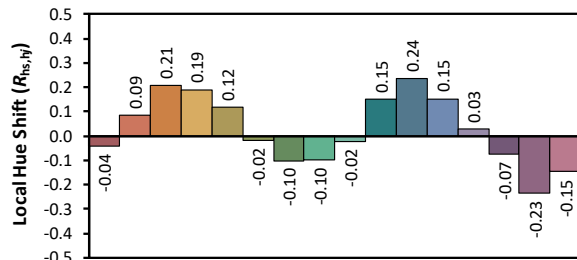
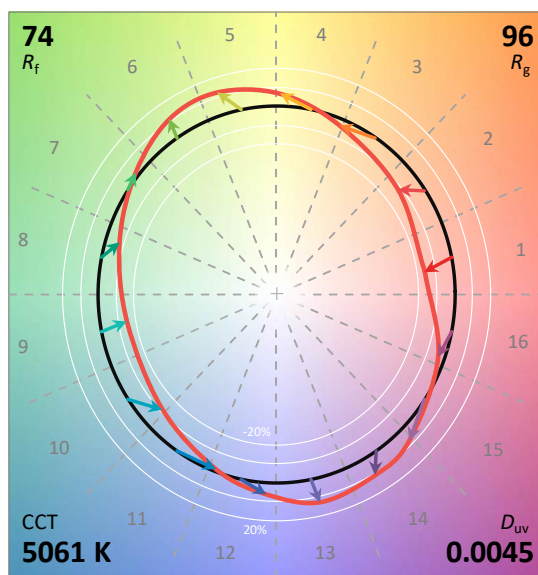
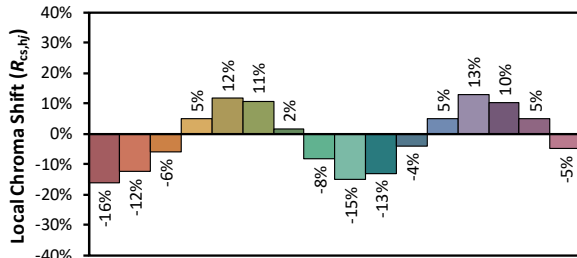
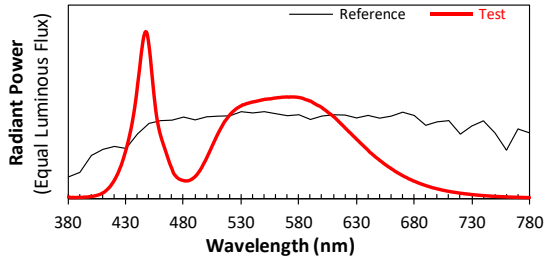


**IES TM-30-18 Color Rendition Result:**

**ANSI/IES TM-30-18 Color Rendition Report**

Source: 1 CIE F1  
Date: 2022/3/2

Manufacturer: Shenzhen XinShengYang Opto-  
Model: XALH(80/100/120/150)W50KT3PAD



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

$x$  0.3442  
 $y$  0.3600  
 $u'$  0.2076  
 $v'$  0.4886

CIE 13.3-1995  
(CRI)  
 $R_a$  73  
 $R_g$  -27

**Spectrum Data:**

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	0.0095	447	1.0000	514	0.4420	581	0.6042	648	0.2404	715	0.0370
381	0.0091	448	0.9941	515	0.4547	582	0.6026	649	0.2351	716	0.0361
382	0.0063	449	0.9637	516	0.4651	583	0.6009	650	0.2293	717	0.0351
383	0.0057	450	0.9147	517	0.4734	584	0.5985	651	0.2239	718	0.0339
384	0.0067	451	0.8547	518	0.4826	585	0.5949	652	0.2189	719	0.0330
385	0.0063	452	0.7820	519	0.4922	586	0.5928	653	0.2130	720	0.0318
386	0.0059	453	0.7114	520	0.5004	587	0.5906	654	0.2080	721	0.0310
387	0.0058	454	0.6410	521	0.5088	588	0.5889	655	0.2025	722	0.0301
388	0.0068	455	0.5781	522	0.5157	589	0.5849	656	0.1981	723	0.0293
389	0.0071	456	0.5201	523	0.5225	590	0.5844	657	0.1930	724	0.0282
390	0.0071	457	0.4739	524	0.5280	591	0.5798	658	0.1883	725	0.0277
391	0.0066	458	0.4370	525	0.5342	592	0.5757	659	0.1844	726	0.0269
392	0.0073	459	0.4051	526	0.5396	593	0.5710	660	0.1789	727	0.0261
393	0.0079	460	0.3785	527	0.5439	594	0.5674	661	0.1750	728	0.0255
394	0.0087	461	0.3550	528	0.5477	595	0.5632	662	0.1702	729	0.0245
395	0.0087	462	0.3331	529	0.5525	596	0.5593	663	0.1651	730	0.0236
396	0.0090	463	0.3127	530	0.5552	597	0.5561	664	0.1610	731	0.0231
397	0.0094	464	0.2920	531	0.5607	598	0.5532	665	0.1564	732	0.0224
398	0.0107	465	0.2709	532	0.5622	599	0.5488	666	0.1528	733	0.0217
399	0.0112	466	0.2502	533	0.5639	600	0.5447	667	0.1486	734	0.0210
400	0.0124	467	0.2295	534	0.5673	601	0.5382	668	0.1451	735	0.0204
401	0.0132	468	0.2096	535	0.5695	602	0.5338	669	0.1406	736	0.0197
402	0.0144	469	0.1923	536	0.5711	603	0.5287	670	0.1369	737	0.0194
403	0.0160	470	0.1756	537	0.5735	604	0.5232	671	0.1333	738	0.0186
404	0.0176	471	0.1558	538	0.5746	605	0.5177	672	0.1295	739	0.0182
405	0.0192	472	0.1441	539	0.5780	606	0.5121	673	0.1266	740	0.0173
406	0.0214	473	0.1360	540	0.5780	607	0.5075	674	0.1231	741	0.0172
407	0.0237	474	0.1277	541	0.5805	608	0.5023	675	0.1189	742	0.0165
408	0.0263	475	0.1223	542	0.5808	609	0.4967	676	0.1160	743	0.0160
409	0.0301	476	0.1173	543	0.5829	610	0.4915	677	0.1130	744	0.0155
410	0.0343	477	0.1140	544	0.5840	611	0.4857	678	0.1098	745	0.0151
411	0.0376	478	0.1115	545	0.5860	612	0.4791	679	0.1062	746	0.0148
412	0.0432	479	0.1090	546	0.5875	613	0.4718	680	0.1037	747	0.0140
413	0.0494	480	0.1076	547	0.5891	614	0.4655	681	0.1011	748	0.0138
414	0.0554	481	0.1058	548	0.5911	615	0.4578	682	0.0980	749	0.0134
415	0.0623	482	0.1054	549	0.5919	616	0.4516	683	0.0952	750	0.0129
416	0.0702	483	0.1056	550	0.5938	617	0.4442	684	0.0923	751	0.0126
417	0.0790	484	0.1066	551	0.5950	618	0.4377	685	0.0896	752	0.0123
418	0.0890	485	0.1090	552	0.5951	619	0.4311	686	0.0870	753	0.0121
419	0.0990	486	0.1118	553	0.5964	620	0.4235	687	0.0848	754	0.0117
420	0.1105	487	0.1155	554	0.5970	621	0.4168	688	0.0824	755	0.0112
421	0.1230	488	0.1201	555	0.5971	622	0.4102	689	0.0799	756	0.0110
422	0.1370	489	0.1255	556	0.5981	623	0.4028	690	0.0775	757	0.0108
423	0.1505	490	0.1316	557	0.5996	624	0.3961	691	0.0753	758	0.0104
424	0.1673	491	0.1389	558	0.6008	625	0.3902	692	0.0731	759	0.0103
425	0.1849	492	0.1471	559	0.6021	626	0.3827	693	0.0712	760	0.0097
426	0.2017	493	0.1570	560	0.6026	627	0.3759	694	0.0689	761	0.0095
427	0.2234	494	0.1662	561	0.6035	628	0.3688	695	0.0667	762	0.0091
428	0.2446	495	0.1779	562	0.6048	629	0.3629	696	0.0643	763	0.0089
429	0.2688	496	0.1898	563	0.6046	630	0.3551	697	0.0631	764	0.0086
430	0.2912	497	0.2036	564	0.6057	631	0.3492	698	0.0615	765	0.0084
431	0.3170	498	0.2162	565	0.6068	632	0.3421	699	0.0596	766	0.0081
432	0.3448	499	0.2287	566	0.6074	633	0.3351	700	0.0579	767	0.0080
433	0.3743	500	0.2435	567	0.6074	634	0.3286	701	0.0563	768	0.0079
434	0.4060	501	0.2584	568	0.6082	635	0.3221	702	0.0545	769	0.0076
435	0.4392	502	0.2728	569	0.6084	636	0.3155	703	0.0530	770	0.0072
436	0.4790	503	0.2877	570	0.6087	637	0.3085	704	0.0511	771	0.0071
437	0.5194	504	0.3030	571	0.6072	638	0.3024	705	0.0497	772	0.0069
438	0.5665	505	0.3183	572	0.6084	639	0.2957	706	0.0483	773	0.0067
439	0.6170	506	0.3334	573	0.6089	640	0.2893	707	0.0470	774	0.0065
440	0.6769	507	0.3480	574	0.6084	641	0.2810	708	0.0454	775	0.0063
441	0.7328	508	0.3632	575	0.6083	642	0.2745	709	0.0441	776	0.0062
442	0.7895	509	0.3774	576	0.6086	643	0.2696	710	0.0429	777	0.0059
443	0.8532	510	0.3916	577	0.6077	644	0.2628	711	0.0417	778	0.0058
444	0.9053	511	0.4045	578	0.6075	645	0.2577	712	0.0403	779	0.0057
445	0.9540	512	0.4176	579	0.6063	646	0.2512	713	0.0391	780	0.0057
446	0.9845	513	0.4296	580	0.6052	647	0.2457	714	0.0382	N/A	N/A

**Goniophotometer Test Results:**

**Test Condition:**

Test Ambient (°C)	Test Humidity (%)	Orientation	Stabilization Time (minute)	Test Time (minute)
25.0	43.6	Face Down	90	25

**Electrical Data:**

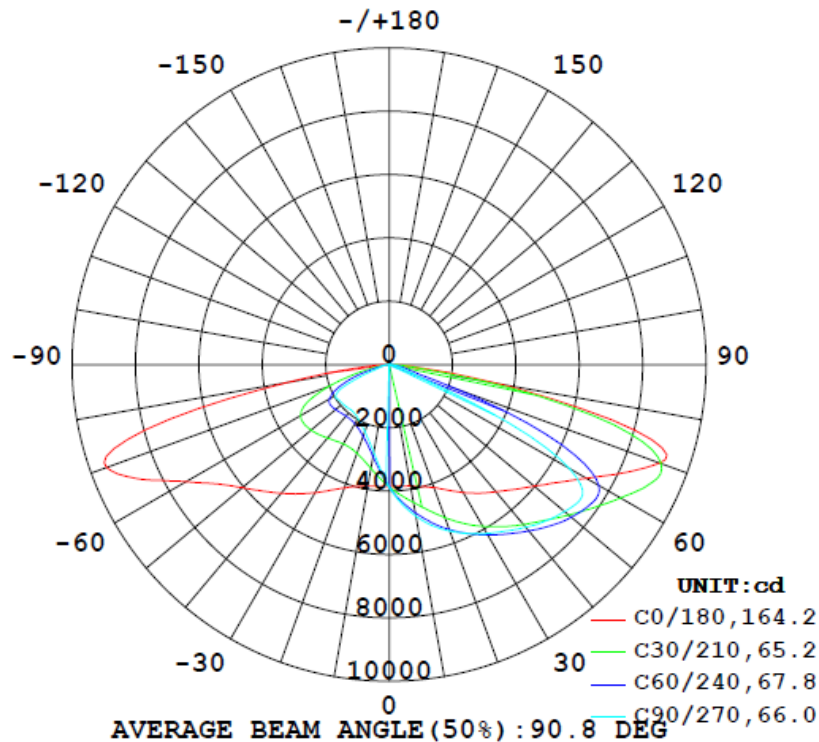
Voltage (V)	Frequency (Hz)	Current (A)	Wattage (W)	Power Factor
120.0	60	1.2361	148.17	0.9989

**Goniophotometer Data:**

Parameter	Results
Total Luminous (lm)	23129.6
Luminous Efficacy (lm/W)	156.10
Zonal Lumens Distribution (0-90°)	99.9%
Zonal Lumens Distribution (80-90°)	1.7%
Beam Angle (°)	90.8
BUG	B3-U2-G3

**Luminous Intensity Distribution Diagram:**

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



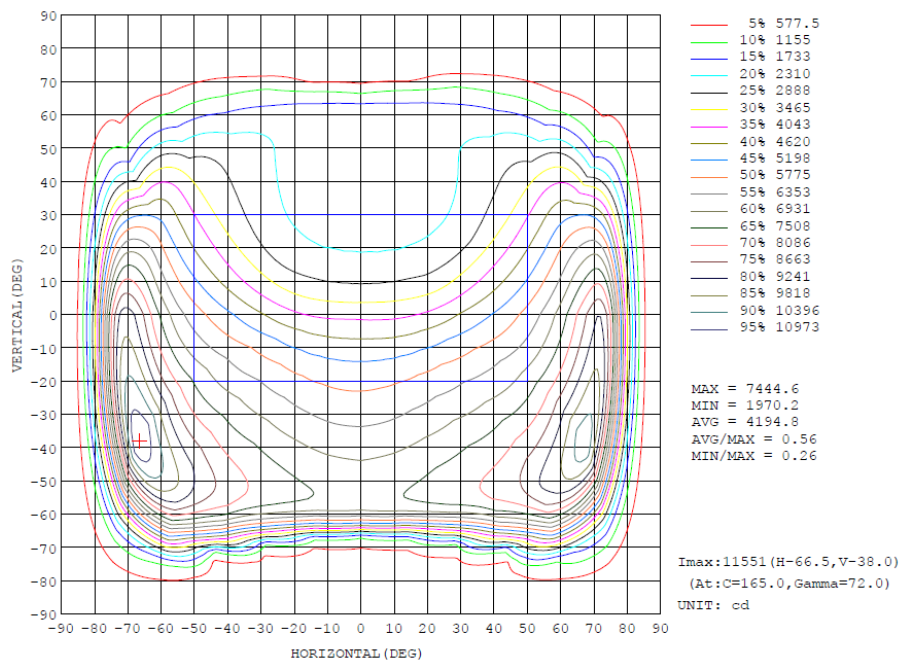


### Zonal Flux Diagram:

ZONAL FLUX DIAGRAM:

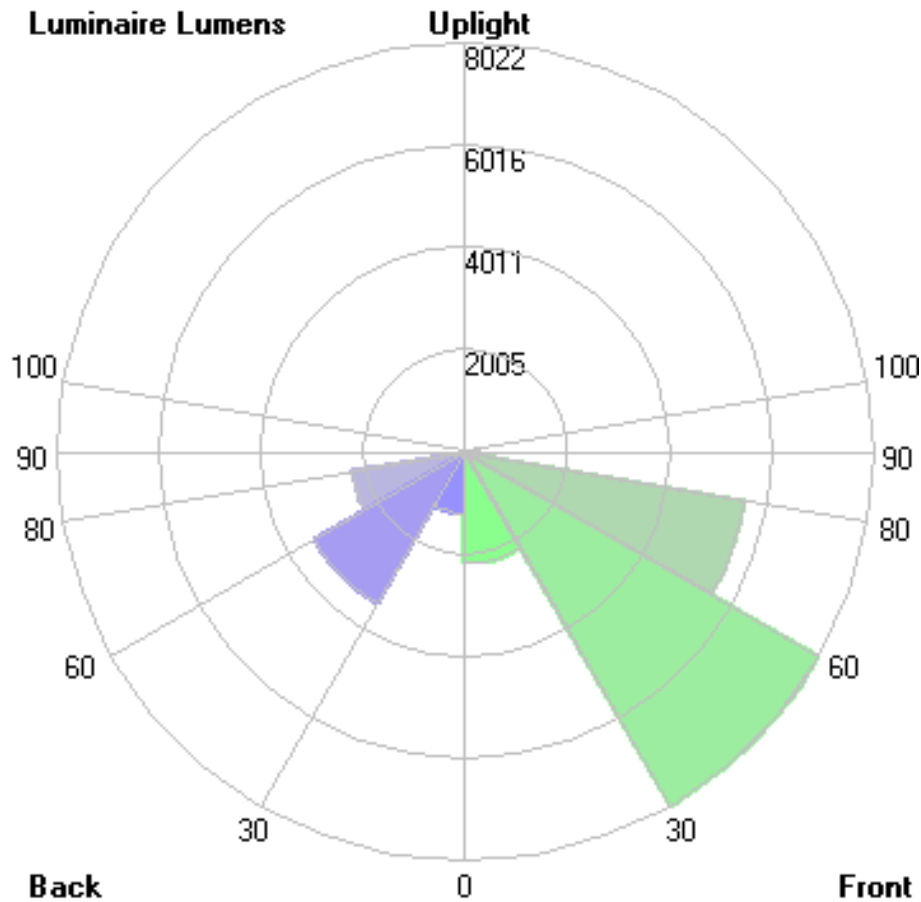
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	★ zone	★ total	★lum, lamp
10	389.3	461.2	486.0	462.7	390.2	310.6	281.6	310.4	0- 10	368.4	368.4	1.59,1.59
20	413.4	540.9	599.2	539.0	414.7	262.3	225.3	259.9	10- 20	1116	1484	6.42,6.42
30	466.5	614.6	615.6	611.2	467.2	243.1	197.0	236.0	20- 30	1926	3410	14.7,14.7
40	524.4	683.5	670.8	682.8	530.4	245.0	187.4	232.6	30- 40	2823	6233	26.9,26.9
50	597.4	755.5	722.5	761.1	604.7	255.9	192.3	242.0	40- 50	3809	10042	43.4,43.4
60	718.2	818.4	656.6	830.4	740.0	249.2	195.2	239.6	50- 60	4823	14865	64.3,64.3
70	908.9	622.3	58.81	663.3	949.0	146.7	48.34	156.0	60- 70	4948	19813	85.7,85.7
80	347.0	48.86	19.78	42.71	322.7	27.22	18.05	27.84	70- 80	2906	22719	98.2,98.2
90	0.5235	2.184	0.4944	0.2192	0.5118	0.3507	0.1050	0.3846	80- 90	385.1	23104	99.9,99.9
100	0.3010	0.0941	0.0669	0.1343	0.6119	0.5509	0.2993	0.6257	90-100	3.684	23108	99.9,99.9
110	0.3479	0.1187	0.0910	0.1982	0.5616	0.6064	0.4636	0.6512	100-110	3.874	23111	99.9,99.9
120	0.4420	0.1530	0.1180	0.2390	0.5566	0.6295	0.5194	0.6188	110-120	3.846	23115	99.9,99.9
130	0.4897	0.1923	0.1460	0.2724	0.5885	0.6741	0.6398	0.6236	120-130	3.883	23119	100,100
140	0.4131	0.2360	0.1928	0.2990	0.5247	0.7006	0.6796	0.6565	130-140	3.611	23123	100,100
150	0.3463	0.2705	0.2371	0.3177	0.4896	0.6099	0.6646	0.6202	140-150	2.863	23126	100,100
160	0.3844	0.3378	0.2988	0.3899	0.5074	0.5573	0.5927	0.5662	150-160	2.092	23128	100,100
170	0.4244	0.4236	0.3993	0.4430	0.5184	0.5122	0.4942	0.4693	160-170	1.322	23129	100,100
180	0.5087	0.4876	0.4514	0.4500	0.5058	0.4985	0.4572	0.4486	170-180	0.4490	23130	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

### Isocandela Diagram:





**BUG Rating:**



<b>LCS Zone</b>	<b>Lumens</b>	<b>%Lamp</b>	<b>%Lum</b>
FL (0-30)	2188.5	N.A.	9.5
FM (30-60)	8021.7	N.A.	34.7
FH (60-80)	5590.1	N.A.	24.2
FVH (80-90)	287.6	N.A.	1.2
BL (0-30)	1221.6	N.A.	5.3
BM (30-60)	3433.3	N.A.	14.8
BH (60-80)	2263.6	N.A.	9.8
BVH (80-90)	97.5	N.A.	0.4
UL (90-100)	3.7	N.A.	0.0
UH (100-180)	21.9	N.A.	0.1
<b>Total</b>	<b>23129.5</b>	<b>N.A.</b>	<b>100.0</b>
<b>BUG Rating</b>	<b>B3-U2-G3</b>		

### Luminous Distribution Intensity Data:

Table--1 UNIT: \*10cd

C (DEG) \ y (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	385	386	386	386	386	386	387	387	387	387	387	387	385	386	386	386	386	386	387
5	386	400	413	424	432	438	440	438	433	426	415	402	387	372	359	347	338	332	330
10	389	417	441	461	475	484	486	484	476	463	444	420	390	361	333	311	294	285	282
15	399	441	475	501	517	524	526	524	516	501	477	443	399	353	312	282	263	252	248
20	413	471	514	541	554	559	559	557	551	539	514	473	415	352	298	262	241	229	225
25	437	506	553	579	589	590	589	587	585	576	553	509	438	358	291	250	226	213	208
30	466	541	590	615	621	619	616	615	616	611	592	546	467	371	290	243	216	202	197
35	496	574	625	649	653	647	642	643	647	647	629	583	498	389	295	242	212	196	189
40	524	609	659	684	686	677	671	673	681	683	666	619	530	411	303	245	213	195	187
45	558	644	696	720	720	706	699	704	715	722	707	660	565	433	313	251	216	197	190
50	597	687	739	756	750	732	722	730	746	761	753	709	605	456	322	256	221	201	192
55	649	744	788	787	773	750	738	748	770	799	810	772	658	480	327	259	225	203	195
60	718	821	843	818	763	690	657	687	761	830	876	865	740	508	323	249	218	199	195
65	811	927	901	797	602	395	312	411	619	819	944	998	858	518	288	211	183	163	145
70	909	1052	912	622	226	75.0	58.8	80.5	255	663	959	1139	949	411	204	147	122	63.3	48.3
75	803	1000	731	225	59.9	41.8	38.2	41.3	53.2	278	757	1007	797	207	101	74.0	42.4	27.3	27.8
80	347	505	284	48.9	35.0	21.4	19.8	22.0	36.5	42.7	314	453	323	66.0	27.2	27.2	18.7	18.1	18.0
85	68.7	88.9	51.9	22.6	11.1	7.72	7.38	8.12	13.3	25.9	54.6	85.7	59.9	8.21	6.79	7.74	7.00	6.07	5.27
90	0.52	4.99	0.24	2.18	0.72	0.55	0.49	0.59	0.90	0.22	0.33	4.63	0.51	0.57	0.50	0.35	0.20	0.12	0.11
95	0.28	0.22	0.13	0.08	0.06	0.05	0.05	0.06	0.07	0.10	0.17	0.23	0.59	0.64	0.58	0.46	0.31	0.22	0.19
100	0.30	0.26	0.16	0.09	0.08	0.07	0.07	0.07	0.09	0.13	0.22	0.27	0.61	0.64	0.63	0.55	0.43	0.33	0.30
105	0.32	0.28	0.18	0.11	0.09	0.08	0.08	0.09	0.11	0.17	0.26	0.32	0.59	0.60	0.63	0.61	0.52	0.43	0.40
110	0.35	0.30	0.19	0.12	0.10	0.09	0.09	0.10	0.13	0.20	0.29	0.35	0.56	0.56	0.60	0.61	0.54	0.48	0.46
115	0.39	0.33	0.20	0.13	0.11	0.10	0.10	0.12	0.15	0.22	0.31	0.39	0.54	0.54	0.59	0.61	0.55	0.49	0.48
120	0.44	0.35	0.23	0.15	0.13	0.12	0.12	0.14	0.18	0.24	0.32	0.42	0.56	0.57	0.60	0.63	0.57	0.53	0.52
125	0.49	0.38	0.24	0.18	0.15	0.13	0.13	0.16	0.20	0.26	0.34	0.44	0.58	0.62	0.62	0.66	0.62	0.59	0.58
130	0.49	0.37	0.26	0.19	0.17	0.15	0.15	0.17	0.22	0.27	0.35	0.44	0.59	0.65	0.68	0.67	0.67	0.65	0.64
135	0.46	0.36	0.27	0.21	0.19	0.17	0.17	0.20	0.24	0.29	0.35	0.43	0.57	0.64	0.69	0.70	0.68	0.68	0.69
140	0.41	0.35	0.28	0.24	0.21	0.19	0.19	0.22	0.26	0.30	0.34	0.40	0.52	0.59	0.64	0.70	0.69	0.68	0.68
145	0.37	0.34	0.29	0.25	0.23	0.22	0.21	0.23	0.28	0.30	0.33	0.37	0.50	0.55	0.59	0.65	0.68	0.69	0.69
150	0.35	0.33	0.31	0.27	0.24	0.23	0.24	0.26	0.30	0.32	0.33	0.35	0.49	0.51	0.55	0.61	0.63	0.67	0.66
155	0.36	0.36	0.34	0.30	0.28	0.27	0.27	0.30	0.34	0.35	0.37	0.37	0.49	0.50	0.54	0.57	0.60	0.63	0.63
160	0.38	0.38	0.37	0.34	0.31	0.31	0.30	0.34	0.38	0.39	0.39	0.39	0.51	0.51	0.52	0.56	0.57	0.59	0.59
165	0.40	0.41	0.40	0.39	0.36	0.36	0.36	0.39	0.44	0.43	0.42	0.41	0.51	0.51	0.51	0.52	0.54	0.55	0.55
170	0.42	0.43	0.43	0.42	0.39	0.39	0.40	0.42	0.46	0.44	0.43	0.43	0.52	0.52	0.52	0.51	0.51	0.51	0.49
175	0.47	0.48	0.47	0.46	0.43	0.43	0.44	0.43	0.48	0.48	0.47	0.47	0.52	0.52	0.52	0.51	0.50	0.49	0.47
180	0.51	0.51	0.50	0.49	0.47	0.46	0.45	0.43	0.44	0.45	0.45	0.46	0.51	0.50	0.51	0.50	0.49	0.47	0.46

Table--2 UNIT: \*10cd

C (DEG) \ y (DEG)	285	300	315	330	345														
0	387	387	387	387	387														
5	332	338	347	359	372														
10	285	294	310	333	361														
15	251	262	282	313	353														
20	228	239	260	296	350														
25	211	222	245	286	354														
30	199	210	236	282	368														
35	192	204	232	284	388														
40	191	203	233	291	409														
45	194	207	237	300	431														
50	199	212	242	309	455														
55	202	218	246	316	482														
60	197	213	240	312	508														
65	166	187	213	279	511														
70	72.2	130	156	207	425														
75	27.2	51.6	81.0	110	233														
80	18.1	20.1	27.8	29.0	80.2														
85	7.00	7.50	7.32	6.83	11.2														
90	0.13	0.22	0.38	0.54	0.59														
95	0.23	0.34	0.52	0.65	0.67														
100	0.34	0.46	0.63	0.72	0.69														
105	0.45	0.55	0.68	0.72	0.64														
110	0.50	0.57	0.65	0.68	0.59														
115	0.50	0.56	0.62	0.63	0.56														
120	0.53	0.57	0.62	0.63	0.60														
125	0.58	0.60	0.62	0.63	0.64														
130	0.63	0.64	0.62	0.66	0.69														
135	0.65	0.63	0.64	0.68	0.68														
140	0.65	0.65	0.66	0.64	0.63														
145	0.67	0.67	0.63	0.61	0.59														
150	0.65	0.62	0.62	0.59	0.57														
155	0.63	0.61	0.58	0.60	0.57														
160	0.59	0.59	0.57	0.59	0.58														
165	0.56	0.55	0.54	0.56	0.56														
170	0.51	0.51	0.47	0.52	0.54														
175	0.47	0.49	0.46	0.52	0.52														
180	0.45	0.44	0.45	0.46	0.46														

### THD and PF Measurement Test Results:

#### Electrical Measurement:

Voltage (V)	Frequency (Hz)	Current (A)	Wattage (W)	Power Factor	iTHD(%)
120.0	60	1.2361	148.17	0.9989	5.01
277.0	60	0.5554	144.62	0.9401	10.22

**Photo of Sample:**



**Equipment List:**

Equipment ID	Equipment Name	Last Cal.	Due Cal.
NTC-F01-001	Goniophotometer System	2021-11-10	2022-11-09
NTC-F01-006	2.0 meter Integrating Sphere	2021-11-10	2022-11-09
NTC-F01-012	Standard Lamp	2021-11-10	2022-11-09
NTC-F01-013	Standard Lamp	2021-11-10	2022-11-09
NTC-F01-031	Digital Power Meter	2021-08-22	2022-08-21
NTC-F01-020	Temperature & Humidity Meter	2021-11-15	2022-11-14

\*\*\*\*\***End of Report**\*\*\*\*\*