

## Photometric Test Report

### Relevant Standards

- ☒ ANSI/IES LM-79-2019
- ☒ ANSI C82.77-2017

Prepared For

**RAB Lighting Inc.**

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Revised Date: N/A

## 1.0 Test Summary

Wall mount Luminaire					
Requirement Category		Test Method	Requirements		Test Value
Luminaire Output (lm) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	N/A		2309
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Standard	Premium	117.8
			N/A	N/A	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		19.6
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)		ANSI C82.77:2002 ANSI C82-77-10:2020	N/A	120V	5.40
				277V	13.51
Power Factor (THD & PF – Section 4.3)		ANSI C82.77:2002 ANSI C82-77-10:2020	N/A	120V	0.997
				277V	0.969
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)		ANSI/IES LM-79:2019	7 steps	3465±245	3450
			4 steps	3465±124	
Minimum CRI (Integrating Sphere – Section 4.1)		ANSI/IES LM-79:2019 CIE13.3-1995	≥80		92.4
Minimum R9 (Integrating Sphere – Section 4.1)		ANSI/IES LM-79-2019 CIE13.3-1995	≥0		77
Minimum Rf (Integrating Sphere – Section 4.1)		ANSI/IES TM-30-18	≥70		89
Minimum Rg (Integrating Sphere – Section 4.1)		ANSI/IES TM-30-18	≥89		96
IES Rcs,h1 (Integrating Sphere – Section 4.1)		ANSI/IES TM-30-18	-12%≤IES Rcs,h1≤+23%		-3%
Zonal Lumen Requirement (0°-60°) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	N/A		26.5%
Backlight, Uplight and Glare (BUG) Ratings (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019 IES TM-15-11	N/A		B0-U4-G2
Input Voltage (V)					
(Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Cast		120.0
(Goniophotometer – Section 4.2)			Non-Worst Case		277.0
Input Current (A)					
(Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		0.164
(Goniophotometer – Section 4.2)			Non-Worst Case		0.073
Power (Input Wattage – W)					
(Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		19.6
(Goniophotometer – Section 4.2)			Non-Worst Case		19.5

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-07-29	V1-24 @20W3500K	-	250728007-S1
2	Goniophotometer Test	2025-07-29	V1-24 @20W3500K	-	250728007-S1
3	THD and PF Test	2025-07-29	V1-24 @20W3500K	-	250728007-S1

### Remark (If any):

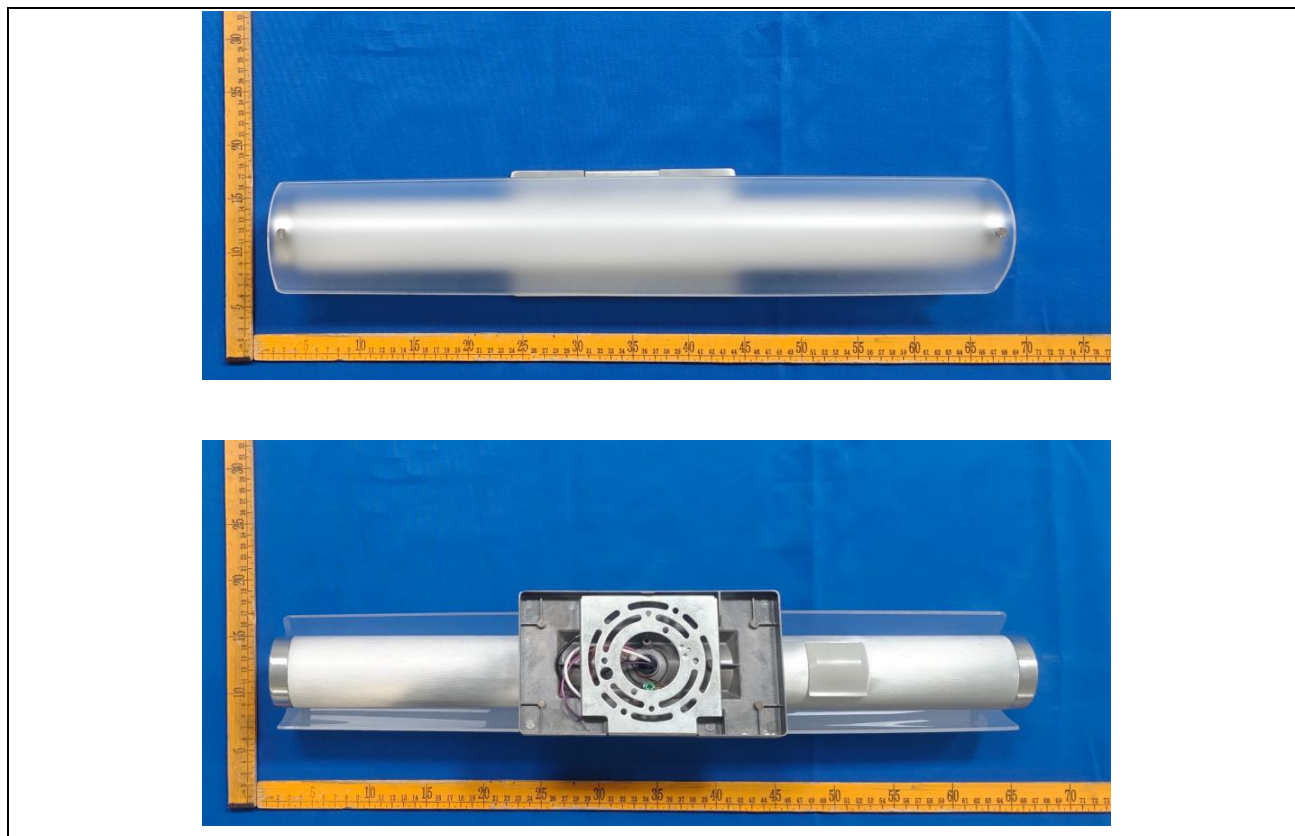
1. The results contained in this report pertain only to the tested samples.
2. This report shall not be reproduced, no limited part or full, without approval of Dongguan New Testing Centre Co., Ltd.
3. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. Government.

### 3.0 Product Description

Luminaire Description: Model No. V1-24 @20W3500K, color tunable from 2700K, 3000K, 3500K, 4000K and 5000K.

Electrical Specification: 120-277Vac, 50/60Hz

Photos of Luminaire Characteristics



## 4.0 LM-79 Measurement and Test Results

### 4.1 Integrating Sphere Test

<b>Model No.</b>	V1-24 @20W3500K	<b>Sample ID</b>	250728007-S1
<b>Operate time (Min.)</b>	10	<b>Stabilization time (Min.)</b>	60
<b>Temperature (°C)</b>	25.4	<b>Humidity (%RH)</b>	41.0

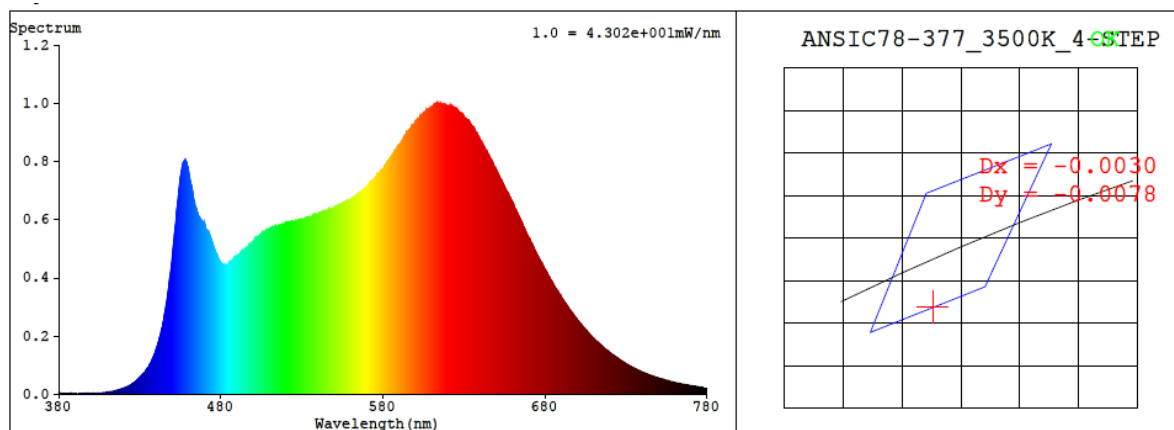
<b>Test Method</b>
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere.</p> <p>The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ±0.2 percent under load.</p> <p>The sample was measured using 4π geometry and 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 780nm.</p>

### Test Result

<b>Voltage (Vac)</b>	<b>Frequency (Hz)</b>	<b>Current (A)</b>	<b>Power (W)</b>	<b>Power Factor</b>
120.0	60	0.164	19.6	0.997
277.0	60	0.073	19.5	0.969

<b>CCT (K)</b>	<b>CRI</b>	<b>R9</b>	<b>Duv</b>	<b>SDCM</b>	<b>Rf</b>	<b>Rg</b>	<b>IES Rcs,h1</b>
3450	92.4	77	-0.0028	3.5	89	96	-3%

## 4.1 Integrating Sphere Test



### Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.4051$   $y = 0.3843$  /  $u' = 0.2383$   $v' = 0.5085$  ( $duv = -2.81e-03$ )

CCT= 3450K Prcp WL: Ld=582.3nm Purity=36.9%

Peak WL: Lp=613nm FWHM: =178.1nm Ratio:R=23.0% G=72.3% B=4.6%

Render Index: Ra = 92.4 AvgR = 91.4 TM30:Rf=90 Rg=98

EEL: 0.11942 A+

R1 =97 R2 =95 R3 =92 R4 =94 R5 =95 R6 =90 R7 =89

R8 =86 R9 =77 R10=89 R11=97 R12=79 R13=96 R14=96 R15=96

## 4.1 Integrating Sphere Test

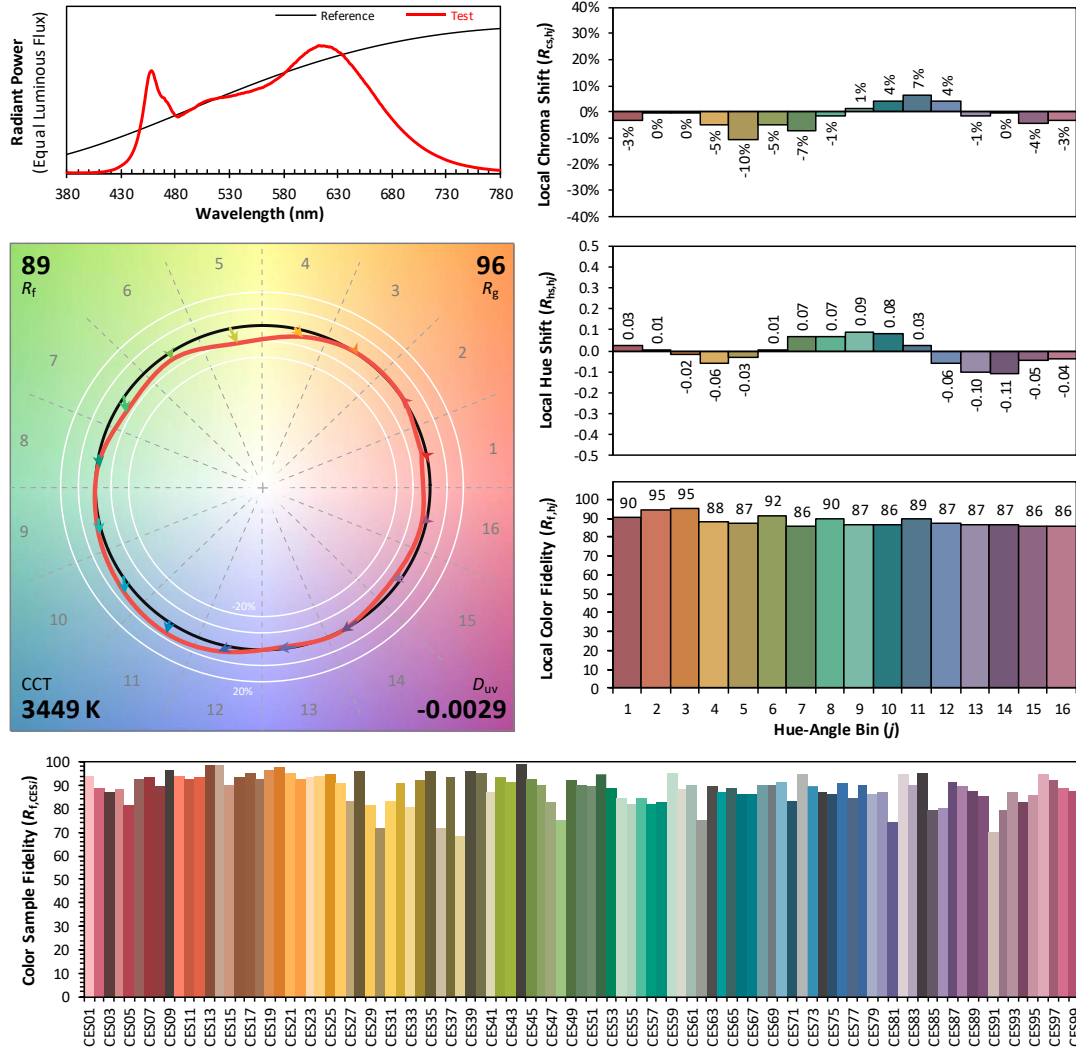
### ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc

Date: 2025/8/21

Model: V1-24 @20W3500K



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

$x$  0.4051  
 $y$  0.3842  
 $u'$  0.2383  
 $v'$  0.5085

CIE 13.3-1995  
(CRI)  
 $R_a$  92  
 $R_g$  77



## 4.1 Integrating Sphere Test

Spectral Distribution over Visible Wavelength											
WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)
380	3.30E-06	447	3.38E-04	514	5.79E-04	581	7.84E-04	648	7.93E-04	715	1.66E-04
381	3.70E-06	448	3.82E-04	515	5.78E-04	582	7.92E-04	649	7.80E-04	716	1.61E-04
382	2.70E-06	449	4.24E-04	516	5.81E-04	583	7.98E-04	650	7.70E-04	717	1.57E-04
383	2.50E-06	450	4.75E-04	517	5.81E-04	584	8.08E-04	651	7.59E-04	718	1.52E-04
384	2.10E-06	451	5.31E-04	518	5.85E-04	585	8.15E-04	652	7.46E-04	719	1.47E-04
385	1.70E-06	452	5.86E-04	519	5.84E-04	586	8.24E-04	653	7.37E-04	720	1.43E-04
386	2.10E-06	453	6.48E-04	520	5.90E-04	587	8.35E-04	654	7.24E-04	721	1.39E-04
387	2.60E-06	454	7.00E-04	521	5.91E-04	588	8.41E-04	655	7.13E-04	722	1.35E-04
388	2.70E-06	455	7.48E-04	522	5.91E-04	589	8.51E-04	656	7.01E-04	723	1.30E-04
389	2.20E-06	456	7.80E-04	523	5.93E-04	590	8.59E-04	657	6.92E-04	724	1.27E-04
390	1.60E-06	457	7.96E-04	524	5.92E-04	591	8.64E-04	658	6.80E-04	725	1.24E-04
391	2.10E-06	458	8.02E-04	525	5.94E-04	592	8.72E-04	659	6.71E-04	726	1.20E-04
392	1.90E-06	459	7.90E-04	526	5.96E-04	593	8.82E-04	660	6.58E-04	727	1.16E-04
393	2.60E-06	460	7.71E-04	527	5.96E-04	594	8.91E-04	661	6.46E-04	728	1.12E-04
394	2.80E-06	461	7.37E-04	528	5.98E-04	595	9.00E-04	662	6.33E-04	729	1.09E-04
395	2.90E-06	462	7.13E-04	529	5.98E-04	596	9.07E-04	663	6.22E-04	730	1.05E-04
396	2.50E-06	463	6.79E-04	530	6.03E-04	597	9.13E-04	664	6.10E-04	731	1.01E-04
397	2.80E-06	464	6.52E-04	531	6.01E-04	598	9.21E-04	665	5.97E-04	732	9.81E-05
398	3.00E-06	465	6.33E-04	532	6.04E-04	599	9.27E-04	666	5.84E-04	733	9.56E-05
399	3.00E-06	466	6.14E-04	533	6.06E-04	600	9.37E-04	667	5.73E-04	734	9.23E-05
400	3.10E-06	467	6.02E-04	534	6.08E-04	601	9.42E-04	668	5.61E-04	735	8.97E-05
401	3.30E-06	468	5.93E-04	535	6.10E-04	602	9.46E-04	669	5.48E-04	736	8.66E-05
402	3.10E-06	469	5.90E-04	536	6.10E-04	603	9.57E-04	670	5.38E-04	737	8.40E-05
403	3.70E-06	470	5.85E-04	537	6.14E-04	604	9.60E-04	671	5.28E-04	738	8.12E-05
404	4.20E-06	471	5.66E-04	538	6.19E-04	605	9.67E-04	672	5.15E-04	739	7.94E-05
405	4.20E-06	472	5.59E-04	539	6.19E-04	606	9.68E-04	673	5.03E-04	740	7.61E-05
406	4.50E-06	473	5.48E-04	540	6.20E-04	607	9.74E-04	674	4.92E-04	741	7.36E-05
407	5.30E-06	474	5.33E-04	541	6.24E-04	608	9.79E-04	675	4.81E-04	742	7.14E-05
408	6.00E-06	475	5.18E-04	542	6.25E-04	609	9.82E-04	676	4.71E-04	743	6.94E-05
409	6.80E-06	476	5.00E-04	543	6.25E-04	610	9.87E-04	677	4.60E-04	744	6.71E-05
410	7.40E-06	477	4.83E-04	544	6.30E-04	611	9.91E-04	678	4.50E-04	745	6.49E-05
411	8.10E-06	478	4.74E-04	545	6.32E-04	612	9.96E-04	679	4.39E-04	746	6.34E-05
412	9.00E-06	479	4.61E-04	546	6.34E-04	613	9.99E-04	680	4.28E-04	747	6.15E-05
413	9.70E-06	480	4.51E-04	547	6.35E-04	614	9.95E-04	681	4.19E-04	748	5.93E-05
414	1.08E-05	481	4.47E-04	548	6.35E-04	615	9.97E-04	682	4.08E-04	749	5.74E-05
415	1.23E-05	482	4.40E-04	549	6.40E-04	616	9.94E-04	683	4.00E-04	750	5.54E-05
416	1.40E-05	483	4.41E-04	550	6.41E-04	617	9.97E-04	684	3.89E-04	751	5.40E-05
417	1.55E-05	484	4.46E-04	551	6.44E-04	618	9.96E-04	685	3.79E-04	752	5.28E-05
418	1.69E-05	485	4.52E-04	552	6.48E-04	619	9.93E-04	686	3.70E-04	753	5.12E-05
419	1.86E-05	486	4.55E-04	553	6.50E-04	620	9.92E-04	687	3.60E-04	754	4.94E-05
420	2.14E-05	487	4.60E-04	554	6.53E-04	621	9.90E-04	688	3.52E-04	755	4.75E-05
421	2.31E-05	488	4.63E-04	555	6.56E-04	622	9.87E-04	689	3.42E-04	756	4.63E-05
422	2.55E-05	489	4.73E-04	556	6.59E-04	623	9.89E-04	690	3.36E-04	757	4.39E-05
423	2.82E-05	490	4.76E-04	557	6.62E-04	624	9.85E-04	691	3.25E-04	758	4.33E-05
424	3.09E-05	491	4.80E-04	558	6.65E-04	625	9.84E-04	692	3.17E-04	759	4.16E-05
425	3.49E-05	492	4.86E-04	559	6.66E-04	626	9.76E-04	693	3.10E-04	760	4.03E-05
426	3.87E-05	493	4.93E-04	560	6.69E-04	627	9.71E-04	694	3.01E-04	761	3.90E-05
427	4.31E-05	494	4.94E-04	561	6.71E-04	628	9.67E-04	695	2.93E-04	762	3.81E-05
428	4.81E-05	495	5.00E-04	562	6.75E-04	629	9.63E-04	696	2.85E-04	763	3.71E-05
429	5.32E-05	496	5.03E-04	563	6.82E-04	630	9.54E-04	697	2.78E-04	764	3.55E-05
430	5.81E-05	497	5.09E-04	564	6.84E-04	631	9.48E-04	698	2.71E-04	765	3.46E-05
431	6.46E-05	498	5.11E-04	565	6.89E-04	632	9.43E-04	699	2.63E-04	766	3.34E-05
432	6.95E-05	499	5.19E-04	566	6.95E-04	633	9.40E-04	700	2.56E-04	767	3.27E-05
433	7.62E-05	500	5.25E-04	567	6.97E-04	634	9.30E-04	701	2.49E-04	768	3.19E-05
434	8.41E-05	501	5.33E-04	568	7.03E-04	635	9.21E-04	702	2.42E-04	769	3.05E-05
435	9.03E-05	502	5.39E-04	569	7.08E-04	636	9.16E-04	703	2.36E-04	770	2.95E-05
436	1.01E-04	503	5.42E-04	570	7.14E-04	637	9.02E-04	704	2.29E-04	771	2.87E-05
437	1.11E-04	504	5.47E-04	571	7.20E-04	638	8.95E-04	705	2.21E-04	772	2.75E-05
438	1.23E-04	505	5.50E-04	572	7.26E-04	639	8.85E-04	706	2.16E-04	773	2.69E-05
439	1.37E-04	506	5.56E-04	573	7.30E-04	640	8.75E-04	707	2.09E-04	774	2.60E-05
440	1.53E-04	507	5.59E-04	574	7.37E-04	641	8.62E-04	708	2.03E-04	775	2.49E-05
441	1.71E-04	508	5.63E-04	575	7.42E-04	642	8.53E-04	709	1.98E-04	776	2.45E-05
442	1.90E-04	509	5.65E-04	576	7.49E-04	643	8.46E-04	710	1.92E-04	777	2.38E-05
443	2.14E-04	510	5.69E-04	577	7.55E-04	644	8.36E-04	711	1.86E-04	778	2.27E-05
444	2.38E-04	511	5.71E-04	578	7.63E-04	645	8.24E-04	712	1.81E-04	779	2.27E-05
445	2.69E-04	512	5.74E-04	579	7.69E-04	646	8.15E-04	713	1.75E-04	780	2.27E-05
446	3.03E-04	513	5.74E-04	580	7.73E-04	647	8.02E-04	714	1.71E-04	N/A	N/A



## 4.0 LM-79 Measurement and Test Results

### 4.2 Goniophotometer Test

<b>Model No.</b>	V1-24 @20W3500K	<b>Sample ID</b>	250728007-S1
<b>Operate time (Min.)</b>	30	<b>Stabilization time (Min.)</b>	60
<b>Temperature (°C)</b>	24.9	<b>Humidity (%RH)</b>	42.1

<b>Test Method</b>
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using a type C goniophotometer and software.</p> <p>The ambient temperature shall be maintained at <math>25 \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.</p> <p>The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within <math>\pm 0.2</math> percent under load.</p> <p>The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at <math>1.0^\circ</math> vertical intervals and <math>15^\circ</math> horizontal intervals.</p>

### Test Conditions

Condition	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
<b>WORST CASE</b>	120.0	60	0.164	19.6	0.997
<b>NON-WORST CASE</b>	277.0	60	0.073	19.5	0.969

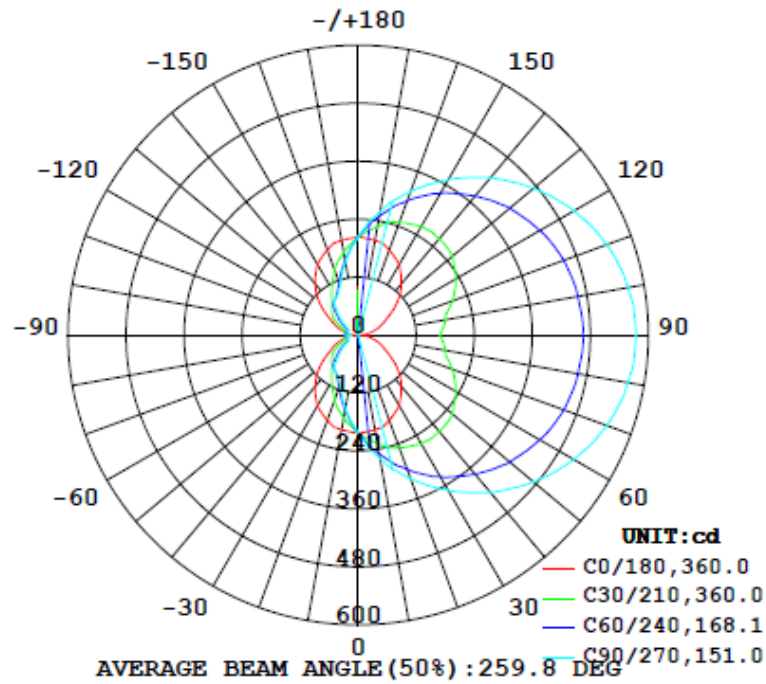
### Test Result

Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement	BUG
	C0-180	C90-270	C0-180	C90-270		(0°-60°)	
2309	89.3	155.2	180.0	98.2	117.8	26.5%	B0-U4-G2

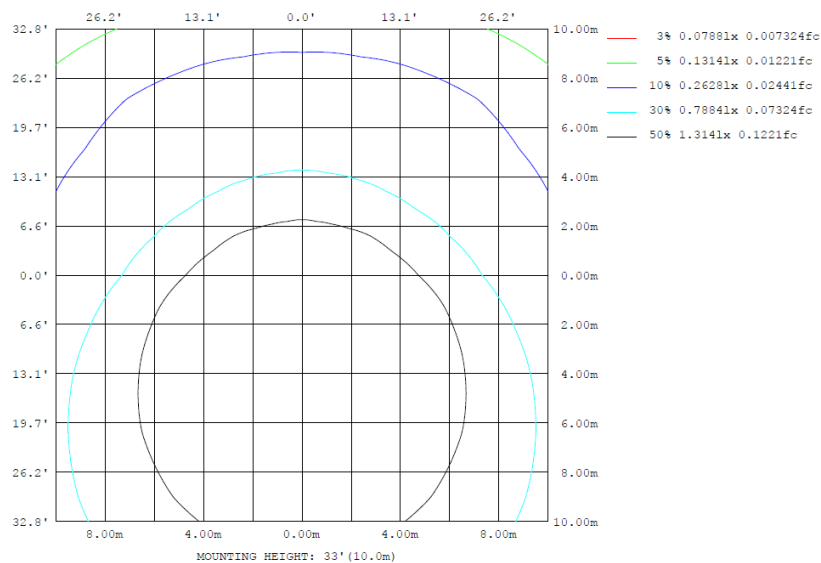
## 4.2 Goniophotometer Test

### Lighting Distribution Curve

#### LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



### Isolux Plot



## 4.2 Goniophotometer Test

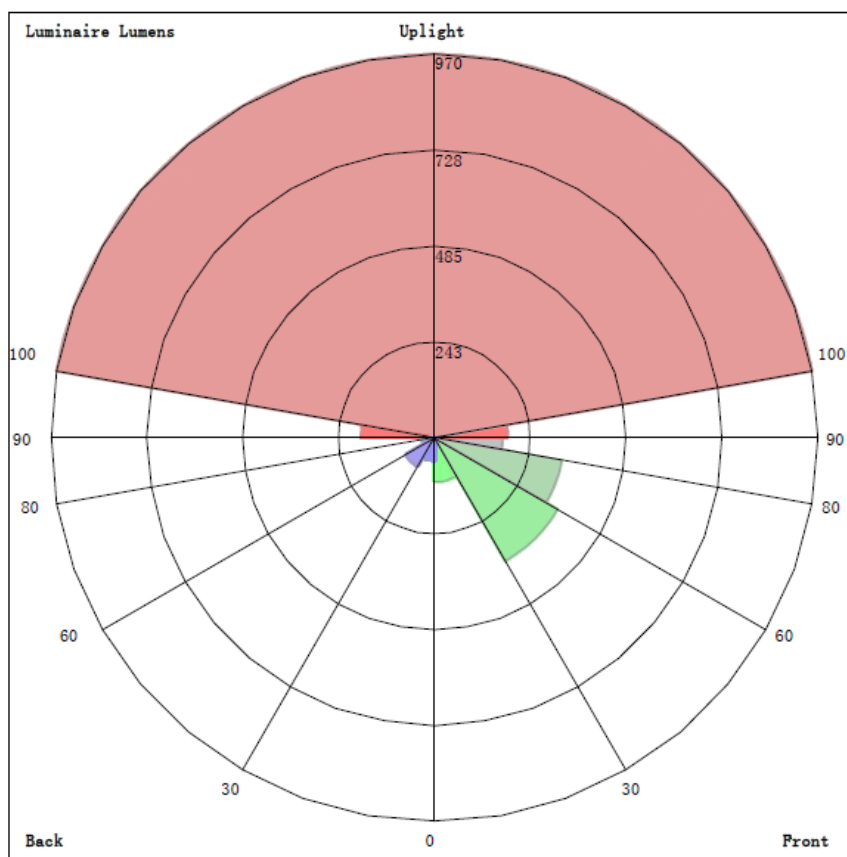
### Zonal Lumen Summary

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum, lamp
10	199.1	240.7	259.6	240.7	199.1	165.1	154.1	165.1	0- 10	19.35	19.35	0.84,0.84
20	187.7	276.8	315.8	276.8	187.7	128.3	110.8	128.3	10- 20	57.29	76.65	3.32,3.32
30	169.1	301.3	370.3	301.3	169.1	96.24	91.23	96.24	20- 30	92.49	169.1	7.32,7.32
40	138.4	323.9	425.0	323.9	138.4	82.55	71.80	82.55	30- 40	125.4	294.5	12.8,12.8
50	104.5	338.0	472.7	338.0	104.5	63.96	43.51	63.96	40- 50	151.1	445.6	19.3,19.3
60	67.51	343.3	515.0	343.3	67.51	39.07	23.48	39.07	50- 60	167.1	612.7	26.5,26.5
70	44.18	343.0	547.3	343.0	44.18	24.68	22.24	24.68	60- 70	176.2	788.9	34.2,34.2
80	23.16	336.6	567.1	336.6	23.16	24.58	22.55	24.58	70- 80	181.3	970.2	42,42
90	4.434	331.7	574.4	331.7	4.434	28.87	26.62	28.87	80- 90	184.4	1155	50,50
100	23.16	336.6	567.1	336.6	23.16	24.58	22.55	24.58	90-100	184.4	1339	58,58
110	44.18	343.0	547.3	343.0	44.18	24.68	22.24	24.68	100-110	181.3	1520	65.8,65.8
120	67.51	343.3	515.0	343.3	67.51	39.07	23.48	39.07	110-120	176.2	1696	73.5,73.5
130	104.5	338.0	472.7	338.0	104.5	63.96	43.51	63.96	120-130	167.1	1863	80.7,80.7
140	138.4	323.9	425.0	323.9	138.4	82.55	71.80	82.55	130-140	151.1	2015	87.2,87.2
150	169.1	301.3	370.3	301.3	169.1	96.24	91.23	96.24	140-150	125.4	2140	92.7,92.7
160	187.7	276.8	315.8	276.8	187.7	128.3	110.8	128.3	150-160	92.49	2232	96.7,96.7
170	199.1	240.7	259.6	240.7	199.1	165.1	154.1	165.1	160-170	57.29	2290	99.2,99.2
180	203.2	203.2	203.2	203.2	203.2	203.2	203.2	203.2	170-180	19.35	2309	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Zonal (lm)		Total (lm)		Percent
0-10	19.35	0-10	19.35	0.85%
10-20	57.29	0-20	76.64	3.35%
20-30	92.49	0-30	169.13	7.39%
30-40	125.36	0-40	294.49	12.86%
40-50	151.14	0-50	445.63	19.46%
50-60	167.06	0-60	612.69	26.76%
60-70	176.17	0-70	788.86	34.45%
70-80	181.29	0-80	970.15	42.37%
80-90	184.41	0-90	1154.56	50.42%
90-100	184.41	0-100	1338.97	58.48%
100-110	181.29	0-110	1520.26	66.39%
110-120	176.17	0-120	1696.43	74.09%
120-130	167.06	0-130	1863.49	81.38%
130-140	151.14	0-140	2014.63	87.98%
140-150	125.36	0-150	2139.99	93.46%
150-160	92.49	0-160	2232.48	97.50%
160-170	57.29	0-170	2289.77	100.00%
170-180	19.35	0-180	2309.12	100.85%

## 4.2 Goniophotometer Test

LCS/BUG

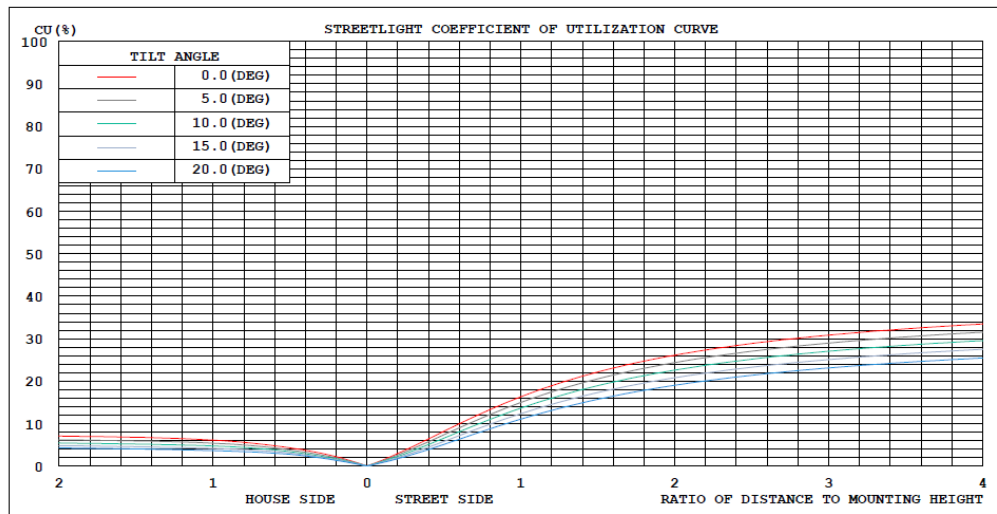


### LUMINAIRE CLASSIFICATION SYSTEM (LCS)

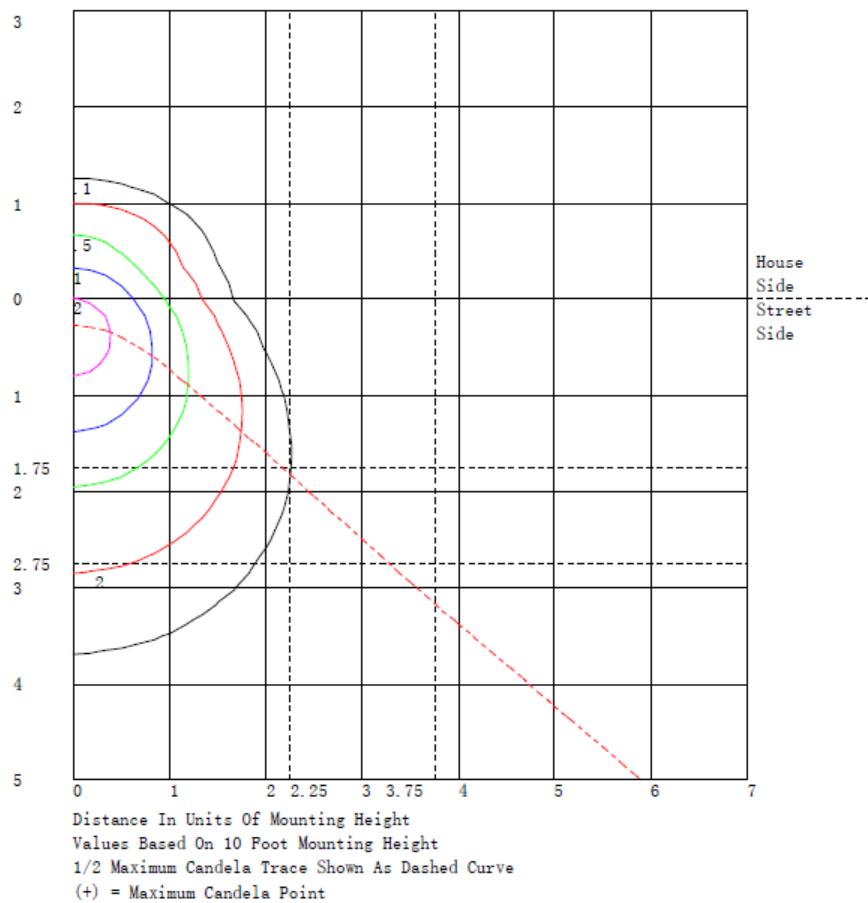
	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	111.5	N.A.	4.8
FM - Front-Medium (30-60)	360.0	N.A.	15.6
FH - Front-High (60-80)	326.8	N.A.	14.2
FVH - Front-Very High (80-90)	171.4	N.A.	7.4
BL - Back-Low (0-30)	57.6	N.A.	2.5
BM - Back-Medium (30-60)	83.5	N.A.	3.6
BH - Back-High (60-80)	30.7	N.A.	1.3
BVH - Back-Very High (80-90)	13.0	N.A.	0.6
UL - Uplight-Low (90-100)	184.4	N.A.	8.0
UH - Uplight-High (100-180)	970.1	N.A.	42.0
Total	2309.0	N.A.	100.0
BUG Rating	B0-U4-G2		

## 4.2 Goniophotometer Test

### Coefficients of Utilization



### Isolines



## 4.2 Goniophotometer Test

### Luminous Distribution Intensity Data

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203
5	201	208	215	221	227	231	233	231	227	221	215	208	201	194	189	184	181	179	178
10	199	213	229	241	250	256	260	256	250	241	229	213	199	186	174	165	158	154	154
15	197	218	241	258	274	285	290	285	274	258	241	218	197	177	160	146	136	131	130
20	188	218	248	277	296	310	316	310	296	277	248	218	188	162	143	128	116	111	111
25	178	217	254	289	318	336	345	336	318	289	254	217	178	148	125	110	102	97.3	97.5
30	169	215	260	301	339	361	370	361	339	301	260	215	169	134	109	96.2	92.1	90.6	91.2
35	154	206	262	314	357	387	399	387	357	314	262	206	154	118	96.2	87.8	86.9	87.4	88.1
40	138	197	261	324	376	411	425	411	376	324	261	197	138	102	85.0	82.5	81.0	74.3	71.8
45	123	188	259	331	393	434	449	434	393	331	259	188	123	86.8	77.4	76.1	66.1	58.6	56.0
50	105	171	254	338	409	456	473	456	409	338	254	171	105	75.0	71.5	64.0	52.3	45.7	43.5
55	86.0	152	243	342	421	475	495	475	421	342	243	152	86.0	65.0	62.8	50.4	40.5	34.8	33.2
60	67.5	132	233	343	433	493	515	493	433	343	233	132	67.5	56.1	51.9	39.1	29.5	24.7	23.5
65	55.8	115	220	344	444	510	532	510	444	344	220	115	55.8	47.5	40.4	29.1	24.2	22.7	22.3
70	44.2	98.1	207	343	452	522	547	522	452	343	207	98.1	44.2	38.4	32.1	24.7	23.8	22.6	22.2
75	32.5	80.7	191	340	458	532	558	532	458	340	191	80.7	32.5	29.2	25.0	24.4	24.0	22.8	22.4
80	23.2	76.2	183	337	461	540	567	540	461	337	183	76.2	23.2	27.3	23.6	24.6	24.2	22.8	22.6
85	13.8	72.7	177	336	464	545	572	545	464	336	177	72.7	13.8	26.4	25.5	26.7	25.8	20.7	20.5
90	4.43	68.6	168	332	465	547	574	547	465	332	168	68.6	4.43	25.6	27.4	28.9	28.6	22.2	26.6
95	13.8	72.7	177	336	464	545	572	545	464	336	177	72.7	13.8	26.4	25.5	26.7	25.8	20.7	20.5
100	23.2	76.2	183	337	461	540	567	540	461	337	183	76.2	23.2	27.3	23.6	24.6	24.2	22.8	22.6
105	32.5	80.7	191	340	458	532	558	532	458	340	191	80.7	32.5	29.2	25.0	24.4	24.0	22.8	22.4
110	44.2	98.1	207	343	452	522	547	522	452	343	207	98.1	44.2	38.4	32.1	24.7	23.8	22.6	22.2
115	55.8	115	220	344	444	510	532	510	444	344	220	115	55.8	47.5	40.4	29.1	24.2	22.7	22.3
120	67.5	132	233	343	433	493	515	493	433	343	233	132	67.5	56.1	51.9	39.1	29.5	24.7	23.5
125	86.0	152	243	342	421	475	495	475	421	342	243	152	86.0	65.0	62.8	50.4	40.5	34.8	33.2
130	105	171	254	338	409	456	473	456	409	338	254	171	105	75.0	71.5	64.0	52.3	45.7	43.5
135	123	188	259	331	393	434	449	434	393	331	259	188	123	86.8	77.4	76.1	66.1	58.6	56.0
140	138	197	261	324	376	411	425	411	376	324	261	197	138	102	85.0	82.5	81.0	74.3	71.8
145	154	206	262	314	357	387	399	387	357	314	262	206	154	118	96.2	87.8	86.9	87.4	88.1
150	169	215	260	301	339	361	370	361	339	301	260	215	169	134	109	96.2	92.1	90.6	91.2
155	178	217	254	289	318	336	345	336	318	289	254	217	178	148	125	110	102	97.3	97.5
160	188	218	248	277	296	310	316	310	296	277	248	218	188	162	143	128	116	111	111
165	197	218	241	258	274	285	290	285	274	258	241	218	197	177	160	146	136	131	130
170	199	213	229	241	250	256	260	256	250	241	229	213	199	186	174	165	158	154	154
175	201	208	215	221	227	231	233	231	227	221	215	208	201	194	189	184	181	179	178
180	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203

Table--2

UNIT: cd

C (DEG) γ (DEG)	285	300	315	330	345														
0	203	203	203	203	203														
5	179	181	184	189	194														
10	154	158	165	174	186														
15	131	136	146	160	177														
20	111	116	128	143	162														
25	97.3	102	110	125	148														
30	90.6	92.1	96.2	109	134														
35	87.4	86.9	87.8	96.2	118														
40	74.3	81.0	82.5	85.0	102														
45	58.6	66.1	76.1	77.4	86.8														
50	45.7	52.3	64.0	71.5	75.0														
55	34.8	40.5	50.4	62.8	65.0														
60	24.7	29.5	39.1	51.9	56.1														
65	22.7	24.2	29.1	40.4	47.5														
70	22.6	23.8	24.7	32.1	38.4														
75	22.8	24.0	24.4	25.0	29.2														
80	22.8	24.2	24.6	23.6	27.3														
85	20.7	25.8	26.7	25.5	26.4														
90	22.2	28.6	28.9	27.4	25.6														
95	20.7	25.8	26.7	25.5	26.4														
100	22.8	24.2	24.6	23.6	27.3														
105	22.8	24.0	24.4	25.0	29.2														
110	22.6	23.8	24.7	32.1	38.4														
115	22.7	24.2	29.1	40.4	47.5														
120	24.7	29.5	39.1	51.9	56.1														
125	34.8	40.5	50.4	62.8	65.0														
130	45.7	52.3	64.0	71.5	75.0														
135	58.6	66.1	76.1	77.4	86.8														
140	74.3	81.0	82.5	85.0	102														
145	87.4	86.9	87.8	96.2	118														
150	90.6	92.1	96.2	109	134														
155	97.3	102	110	125	148														
160	111	116	128	143	162														
165	131	136	146	160	177														
170	154	158	165	174	186														
175	179	181	184	189	194														
180	203	203	203	203	203														

## 4.0 LM-79 Measurement and Test Results

### 4.3 THD and PF Test

<b>Model No.</b>	V1-24 @20W3500K	<b>Sample ID</b>	250728007-S1
<b>Temperature (°C)</b>	25.4	<b>Humidity (%RH)</b>	41.0

<b>Test Method</b>
<p>The samples were tested according to the and Ansi C82.77: 2002 and ANSI C82.77-10:2020</p> <p>The total harmonic distortion shall be measured to the 40th order.</p> <p>The ambient temperature shall be maintained at <math>25 \pm 1^{\circ}\text{C}</math>. The sample measurements were made using a digital power meter and power supply. The sample was operated at rated voltage and was stabilized before measurement. The total harmonic distortion was calculated.</p>

### Test Results

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	iTHD(%)
120.0	60	0.164	19.6	0.997	5.40
277.0	60	0.073	19.5	0.969	13.51



## 5.0 Equipment List:

Equipment ID	Equipment Name	Last Cal.	Due Cal.
NTC-F01-001	Goniophotometer System	2024-11-07	2025-11-06
NTC-F01-006	2.0 meter Integrating Sphere	2024-11-07	2025-11-06
NTC-F01-012	Standard Lamp	2024-10-28	2025-10-27
NTC-F01-013	Standard Lamp	2024-10-28	2025-10-27
NTC-F01-031	Digital Power Meter	2024-08-06	2025-08-05
NTC-F01-019	Temperature & Humidity Meter	2024-10-29	2025-10-28

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