

## Photometric Test Report

### Relevant Standards

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

Prepared For

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Revised Date: N/A

## 1.0 Test Summary

DLC Technical Requirements V5.1

Direct Linear Ambient Luminaires					
Requirement Category		Test Method	Requirements		Test Value
Luminaire Output (lm) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	375 lm/ft		761
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Standard	Premium	149.1
			115	130	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		20.4
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)		ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	7.45
				277V	8.04
Power Factor (THD & PF – Section 4.3)		ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.995
				277V	0.956
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)		ANSI/IES LM-79:2019	7 steps	3465±245	3455
			4 steps	3465±124	
Minimum CRI (Integrating Sphere – Section 4.1)		ANSI/IES LM-79:2019 CIE13.3-1995	≥80		83.8
Minimum R9 (Integrating Sphere – Section 4.1)		ANSI/IES LM-79-2019 CIE13.3-1995	≥0		11
Minimum Rf (Integrating Sphere – Section 4.1)		ANSI/IES TM-30-18	≥70		85
Minimum Rg (Integrating Sphere – Section 4.1)		ANSI/IES TM-30-18	≥89		95
IES Rcs,h1 (Integrating Sphere – Section 4.1)		ANSI/IES TM-30-18	-12%≤IES Rcs,h1≤+23%		-12%
Zonal Lumen Requirement (0°-60°) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	≥40%		56.1%
Discomfort Glare (UGR) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Standard	Premium	30.5
			N/A	<22	
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		0.171
(Goniophotometer – Section 4.2)			Non-Worst Case		0.077
Power (Input Wattage – W)					
(Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		20.4
(Goniophotometer – Section 4.2)			Non-Worst Case		20.3

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-04-03	STRP4/MVS @20W3500K	-	250402001-S1
2	Goniophotometer Test	2025-04-03	STRP4/MVS @20W3500K	-	250402001-S1
3	THD and PF Test	2025-04-03	STRP4/MVS @20W3500K	-	250402001-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. STRP4/MVS @20W3500K, color tunable from 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

Model No.	STRP4/MVS @20W3500K	Sample ID	250402001-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

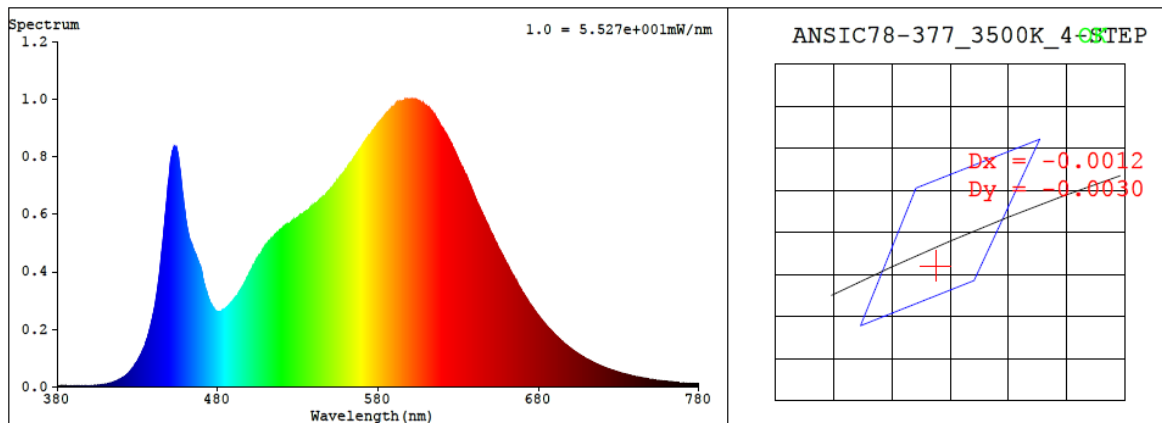
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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 4<math>\pi</math> 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

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
120.0	60	0.171	20.4	0.995
277.0	60	0.077	20.3	0.956

CCT (K)	CRI	R9	Duv	SDCM	Rf	Rg	IES Rcs,h1
3455	83.8	11	-0.0011	1.7	85	95	-12%

## 4.1 Integrating Sphere Test



### Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.4067$   $y = 0.3890$  /  $u' = 0.2373$   $v' = 0.5107$  ( $duv = -1.07e-03$ )

CCT= 3455K Prcp WL:  $L_d = 581.5\text{nm}$  Purity=38.8%

Peak WL:  $L_p = 600\text{nm}$  FWHM:  $=142.2\text{nm}$  Ratio: R=20.7% G=76.0% B=3.3%

Render Index:  $R_a = 83.8$  AvgR = 78.1 TM30:  $R_f = 84$   $R_g = 95$

EEL: 0.09537 A++ Highest

R1 =83 R2 =92 R3 =96 R4 =82 R5 =83 R6 =89 R7 =84

R8 =62 R9 =11 R10=81 R11=81 R12=68 R13=85 R14=99 R15=76

## 4.1 Integrating Sphere Test

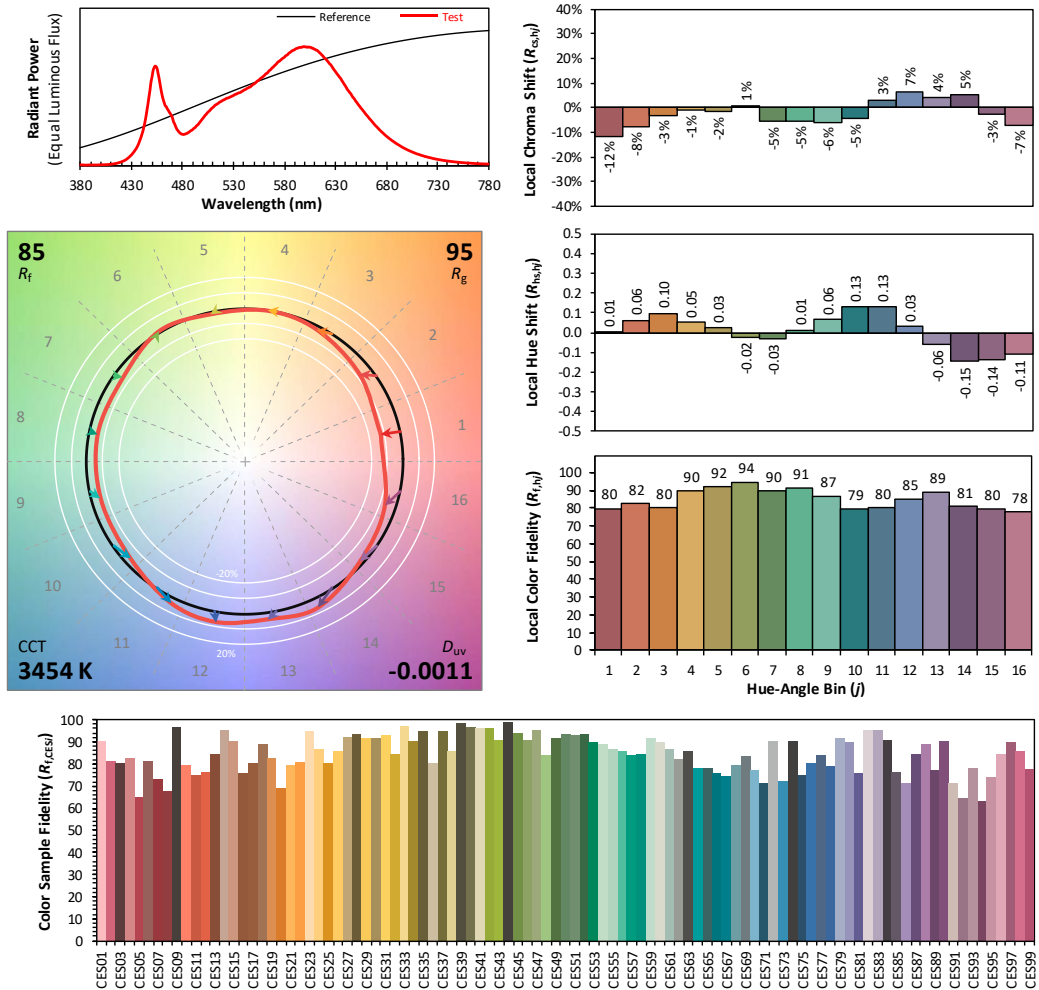
### ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/4/3

Model: STRP4/MVS @20W3500K



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

$x$  0.4067  
 $y$  0.3888  
 $u'$  0.2374  
 $v'$  0.5107

CIE 13.3-1995  
(CRI)

$R_a$  84  
 $R_g$  11

## 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	5.00E-06	447	5.75E-04	514	5.17E-04	581	9.21E-04	648	5.66E-04	715	8.26E-05
381	3.10E-06	448	6.32E-04	515	5.22E-04	582	9.27E-04	649	5.55E-04	716	8.04E-05
382	3.40E-06	449	7.01E-04	516	5.30E-04	583	9.31E-04	650	5.41E-04	717	7.78E-05
383	3.40E-06	450	7.43E-04	517	5.35E-04	584	9.41E-04	651	5.31E-04	718	7.45E-05
384	2.10E-06	451	7.95E-04	518	5.39E-04	585	9.48E-04	652	5.18E-04	719	7.29E-05
385	1.50E-06	452	8.21E-04	519	5.45E-04	586	9.54E-04	653	5.06E-04	720	7.03E-05
386	2.40E-06	453	8.36E-04	520	5.49E-04	587	9.61E-04	654	4.96E-04	721	6.85E-05
387	2.70E-06	454	8.31E-04	521	5.54E-04	588	9.67E-04	655	4.83E-04	722	6.58E-05
388	3.10E-06	455	8.16E-04	522	5.58E-04	589	9.69E-04	656	4.74E-04	723	6.39E-05
389	2.80E-06	456	7.73E-04	523	5.64E-04	590	9.75E-04	657	4.63E-04	724	6.21E-05
390	3.00E-06	457	7.31E-04	524	5.67E-04	591	9.81E-04	658	4.53E-04	725	6.00E-05
391	3.40E-06	458	6.80E-04	525	5.68E-04	592	9.85E-04	659	4.41E-04	726	5.74E-05
392	2.90E-06	459	6.31E-04	526	5.73E-04	593	9.87E-04	660	4.30E-04	727	5.63E-05
393	2.80E-06	460	5.88E-04	527	5.76E-04	594	9.92E-04	661	4.20E-04	728	5.37E-05
394	3.30E-06	461	5.55E-04	528	5.80E-04	595	9.92E-04	662	4.10E-04	729	5.23E-05
395	2.90E-06	462	5.27E-04	529	5.85E-04	596	9.95E-04	663	3.99E-04	730	5.06E-05
396	3.30E-06	463	5.02E-04	530	5.88E-04	597	9.94E-04	664	3.88E-04	731	4.91E-05
397	3.40E-06	464	4.94E-04	531	5.94E-04	598	9.98E-04	665	3.80E-04	732	4.73E-05
398	3.60E-06	465	4.76E-04	532	5.99E-04	599	1.00E-03	666	3.69E-04	733	4.62E-05
399	3.80E-06	466	4.64E-04	533	6.01E-04	600	1.00E-03	667	3.59E-04	734	4.47E-05
400	4.40E-06	467	4.48E-04	534	6.06E-04	601	9.96E-04	668	3.48E-04	735	4.30E-05
401	4.60E-06	468	4.36E-04	535	6.10E-04	602	9.97E-04	669	3.39E-04	736	4.15E-05
402	5.00E-06	469	4.20E-04	536	6.12E-04	603	9.94E-04	670	3.30E-04	737	4.02E-05
403	5.20E-06	470	4.03E-04	537	6.15E-04	604	9.97E-04	671	3.21E-04	738	3.91E-05
404	5.30E-06	471	3.70E-04	538	6.22E-04	605	9.95E-04	672	3.12E-04	739	3.75E-05
405	6.00E-06	472	3.53E-04	539	6.25E-04	606	9.93E-04	673	3.03E-04	740	3.66E-05
406	6.10E-06	473	3.32E-04	540	6.33E-04	607	9.87E-04	674	2.94E-04	741	3.54E-05
407	6.70E-06	474	3.12E-04	541	6.37E-04	608	9.87E-04	675	2.86E-04	742	3.44E-05
408	7.60E-06	475	2.97E-04	542	6.40E-04	609	9.80E-04	676	2.78E-04	743	3.34E-05
409	8.10E-06	476	2.86E-04	543	6.47E-04	610	9.77E-04	677	2.70E-04	744	3.20E-05
410	9.60E-06	477	2.76E-04	544	6.51E-04	611	9.71E-04	678	2.62E-04	745	3.12E-05
411	1.01E-05	478	2.69E-04	545	6.56E-04	612	9.70E-04	679	2.54E-04	746	3.03E-05
412	1.15E-05	479	2.63E-04	546	6.58E-04	613	9.61E-04	680	2.47E-04	747	2.92E-05
413	1.30E-05	480	2.61E-04	547	6.65E-04	614	9.54E-04	681	2.40E-04	748	2.79E-05
414	1.43E-05	481	2.60E-04	548	6.72E-04	615	9.45E-04	682	2.33E-04	749	2.72E-05
415	1.66E-05	482	2.62E-04	549	6.80E-04	616	9.37E-04	683	2.25E-04	750	2.63E-05
416	1.87E-05	483	2.65E-04	550	6.84E-04	617	9.28E-04	684	2.20E-04	751	2.59E-05
417	2.09E-05	484	2.67E-04	551	6.91E-04	618	9.19E-04	685	2.12E-04	752	2.46E-05
418	2.38E-05	485	2.73E-04	552	6.97E-04	619	9.07E-04	686	2.06E-04	753	2.40E-05
419	2.66E-05	486	2.77E-04	553	7.07E-04	620	9.00E-04	687	2.01E-04	754	2.33E-05
420	2.93E-05	487	2.84E-04	554	7.14E-04	621	8.91E-04	688	1.95E-04	755	2.25E-05
421	3.33E-05	488	2.91E-04	555	7.18E-04	622	8.81E-04	689	1.89E-04	756	2.17E-05
422	3.62E-05	489	2.96E-04	556	7.28E-04	623	8.72E-04	690	1.83E-04	757	2.13E-05
423	4.07E-05	490	3.02E-04	557	7.34E-04	624	8.59E-04	691	1.78E-04	758	2.02E-05
424	4.52E-05	491	3.11E-04	558	7.41E-04	625	8.52E-04	692	1.73E-04	759	1.94E-05
425	5.13E-05	492	3.16E-04	559	7.47E-04	626	8.41E-04	693	1.67E-04	760	1.93E-05
426	5.77E-05	493	3.25E-04	560	7.55E-04	627	8.28E-04	694	1.62E-04	761	1.88E-05
427	6.47E-05	494	3.35E-04	561	7.64E-04	628	8.14E-04	695	1.57E-04	762	1.84E-05
428	7.22E-05	495	3.41E-04	562	7.73E-04	629	8.02E-04	696	1.51E-04	763	1.78E-05
429	8.13E-05	496	3.52E-04	563	7.76E-04	630	7.91E-04	697	1.47E-04	764	1.70E-05
430	8.94E-05	497	3.63E-04	564	7.85E-04	631	7.79E-04	698	1.42E-04	765	1.67E-05
431	9.97E-05	498	3.75E-04	565	7.97E-04	632	7.67E-04	699	1.38E-04	766	1.58E-05
432	1.10E-04	499	3.85E-04	566	8.03E-04	633	7.57E-04	700	1.34E-04	767	1.52E-05
433	1.23E-04	500	3.97E-04	567	8.11E-04	634	7.43E-04	701	1.29E-04	768	1.46E-05
434	1.35E-04	501	4.07E-04	568	8.21E-04	635	7.35E-04	702	1.26E-04	769	1.45E-05
435	1.49E-04	502	4.20E-04	569	8.28E-04	636	7.20E-04	703	1.22E-04	770	1.42E-05
436	1.65E-04	503	4.28E-04	570	8.37E-04	637	7.06E-04	704	1.18E-04	771	1.33E-05
437	1.85E-04	504	4.39E-04	571	8.45E-04	638	6.93E-04	705	1.14E-04	772	1.33E-05
438	2.08E-04	505	4.48E-04	572	8.53E-04	639	6.79E-04	706	1.10E-04	773	1.26E-05
439	2.31E-04	506	4.56E-04	573	8.63E-04	640	6.67E-04	707	1.07E-04	774	1.27E-05
440	2.59E-04	507	4.63E-04	574	8.73E-04	641	6.51E-04	708	1.04E-04	775	1.21E-05
441	2.86E-04	508	4.76E-04	575	8.76E-04	642	6.37E-04	709	1.00E-04	776	1.16E-05
442	3.21E-04	509	4.81E-04	576	8.85E-04	643	6.27E-04	710	9.63E-05	777	1.12E-05
443	3.62E-04	510	4.91E-04	577	8.92E-04	644	6.14E-04	711	9.42E-05	778	1.09E-05
444	4.07E-04	511	4.97E-04	578	9.00E-04	645	6.05E-04	712	9.15E-05	779	1.09E-05
445	4.61E-04	512	5.07E-04	579	9.05E-04	646	5.91E-04	713	8.83E-05	780	1.10E-05
446	5.14E-04	513	5.11E-04	580	9.11E-04	647	5.76E-04	714	8.56E-05	N/A	N/A

## 4.0 LM-79 Measurement and Test Results

### 4.2 Goniophotometer Test

Model No.	STRP4/MVS @20W3500K	Sample ID	250402001-S1
Operate time (Min.)	30	Stabilization time (Min.)	60
Temperature (°C)	25.0	Humidity (%RH)	42.6

Test Method
<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
WORST CASE	120.0	60	0.171	20.4	0.995
NON-WORST CASE	277.0	60	0.077	20.3	0.956

#### Test Result

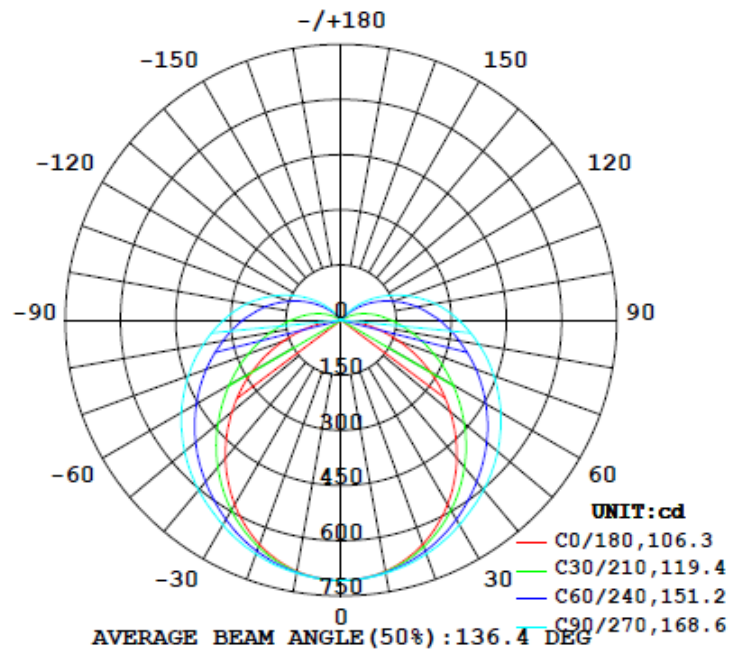
Flux (lm)	Flux per feet (lm/ft)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)
		C0-180	C90-270	C0-180	C90-270	
3042	761	159.6	159.6	106.2	168.6	149.1

Zonal Lumen Requirement	UGR	
( $0^\circ$ - $60^\circ$ )	Crosswise	Endwise
56.1%	22.2	30.5

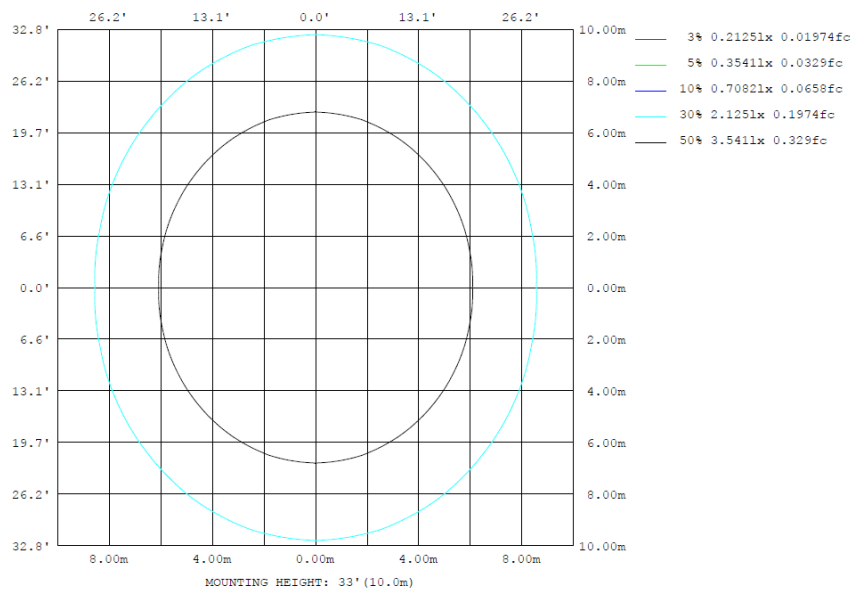
## 4.2 Goniophotometer Test

### 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	693.4	695.5	698.7	695.5	693.4	695.5	698.7	695.5	0- 10	67.00	67.00	2.2,2.2
20	649.1	662.5	677.0	662.5	649.1	662.5	677.0	662.5	10- 20	192.6	259.6	8.53,8.53
30	578.9	611.4	643.3	611.4	578.9	611.4	643.3	611.4	20- 30	294.9	554.5	18.2,18.2
40	490.0	546.8	603.5	546.8	490.0	546.8	603.5	546.8	30- 40	363.8	918.3	30.2,30.2
50	387.8	477.6	555.9	477.6	387.8	477.6	555.9	477.6	40- 50	395.8	1314	43.2,43.2
60	279.6	406.1	501.8	406.1	279.6	406.1	501.8	406.1	50- 60	391.9	1706	56.1,56.1
70	168.6	334.3	442.2	334.3	168.6	334.3	442.2	334.3	60- 70	357.0	2063	67.8,67.8
80	64.17	267.7	380.7	267.7	64.17	267.7	380.7	267.7	70- 80	300.9	2364	77.7,77.7
90	3.452	209.7	319.9	209.7	3.452	209.7	319.9	209.7	80- 90	237.4	2601	85.5,85.5
100	2.680	155.7	259.6	155.7	2.680	155.7	259.6	155.7	90-100	180.8	2782	91.4,91.4
110	3.194	104.3	193.6	104.3	3.194	104.3	193.6	104.3	100-110	127.0	2909	95.6,95.6
120	3.627	57.18	130.2	57.18	3.627	57.18	130.2	57.18	110-120	78.26	2987	98.2,98.2
130	3.806	16.62	71.43	16.62	3.806	16.62	71.43	16.62	120-130	38.87	3026	99.5,99.5
140	4.049	1.973	19.84	1.973	4.049	1.973	19.84	1.973	130-140	12.66	3039	99.9,99.9
150	4.023	1.679	1.244	1.679	4.023	1.679	1.244	1.679	140-150	1.838	3041	99.9,99.9
160	3.396	1.498	1.148	1.498	3.396	1.498	1.148	1.498	150-160	0.9012	3042	100,100
170	4.149	1.418	1.532	1.418	4.149	1.418	1.532	1.418	160-170	0.5201	3042	100,100
180	2.010	2.010	2.010	2.010	2.010	2.010	2.010	2.010	170-180	0.1848	3042	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Zonal (lm)	Total (lm)	Percent
0-10	67.00	2.20%
10-20	192.60	8.53%
20-30	294.93	18.23%
30-40	363.77	30.18%
40-50	395.82	43.20%
50-60	391.86	56.08%
60-70	357.04	67.81%
70-80	300.93	77.70%
80-90	237.43	85.51%
90-100	180.82	91.45%
100-110	127.02	95.63%
110-120	78.26	98.20%
120-130	38.87	99.48%
130-140	12.66	99.89%
140-150	1.84	99.95%
150-160	0.90	99.98%
160-170	0.52	100.00%
170-180	0.18	100.01%

## 4.2 Goniophotometer Test

UGR – Uncorrected Table:

**UGR TABLE - UNCORRECTED**

Reflectances											
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30	
Walls	50	30	50	30	30	50	30	50	30	30	
Floor Cavity	20	20	20	20	20	20	20	20	20	20	
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	14.3	15.7	14.9	16.3	17.0	18.5	19.9	19.1	20.5	21.2
	3H	15.6	17.0	16.2	17.6	18.3	21.5	22.8	22.1	23.4	24.1
	4H	16.1	17.3	16.7	17.9	18.6	23.1	24.3	23.7	24.9	25.7
	6H	16.3	17.5	16.9	18.1	18.8	24.8	25.9	25.4	26.6	27.3
	8H	16.4	17.5	17.0	18.1	18.9	25.7	26.8	26.3	27.4	28.2
	12H	16.4	17.4	17.0	18.1	18.8	26.7	27.7	27.3	28.4	29.1
4H	2H	15.6	16.9	16.2	17.5	18.2	18.8	20.1	19.4	20.7	21.4
	3H	17.3	18.4	17.9	19.0	19.7	22.1	23.1	22.7	23.8	24.5
	4H	17.9	18.9	18.5	19.5	20.3	23.8	24.8	24.4	25.4	26.2
	6H	18.3	19.1	18.9	19.8	20.6	25.6	26.5	26.3	27.2	28.0
	8H	18.3	19.2	19.0	19.9	20.6	26.6	27.5	27.3	28.2	28.9
	12H	18.4	19.1	19.1	19.8	20.6	27.8	28.5	28.5	29.2	30.0
8H	4H	19.1	19.9	19.7	20.6	21.4	23.9	24.8	24.6	25.4	26.2
	6H	19.7	20.4	20.4	21.1	21.9	26.0	26.7	26.7	27.4	28.2
	8H	19.9	20.6	20.6	21.3	22.1	27.1	27.7	27.8	28.5	29.2
	12H	20.1	20.6	20.8	21.4	22.2	28.4	29.0	29.1	29.7	30.5
12H	4H	19.4	20.2	20.1	20.9	21.7	23.9	24.7	24.6	25.4	26.2
	6H	20.3	20.9	21.0	21.6	22.4	26.0	26.6	26.7	27.3	28.2
	8H	20.6	21.2	21.3	21.9	22.8	27.2	27.7	27.9	28.5	29.3

Maximum UGR = 30.5

UGR – Corrected Table:

**UGR TABLE - CORRECTED**

Reflectances											
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30	
Walls	50	30	50	30	30	50	30	50	30	30	
Floor Cavity	20	20	20	20	20	20	20	20	20	20	
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	18.2	19.6	18.8	20.2	20.9	22.4	23.8	23.0	24.4	25.1
	3H	19.5	20.9	20.1	21.5	22.2	25.4	26.7	26.0	27.3	28.0
	4H	20.0	21.2	20.6	21.8	22.5	27.0	28.2	27.6	28.8	29.6
	6H	20.2	21.4	20.8	22.0	22.7	28.7	29.8	29.3	30.5	31.2
	8H	20.3	21.4	20.9	22.0	22.8	29.6	30.7	30.2	31.3	32.1
	12H	20.3	21.3	20.9	22.0	22.7	30.6	31.6	31.2	32.3	33.0
4H	2H	19.5	20.8	20.1	21.4	22.1	22.7	24.0	23.3	24.6	25.3
	3H	21.2	22.3	21.8	22.9	23.6	26.0	27.0	26.6	27.7	28.4
	4H	21.8	22.8	22.4	23.4	24.2	27.7	28.7	28.3	29.3	30.1
	6H	22.2	23.0	22.8	23.7	24.5	29.5	30.4	30.2	31.1	31.9
	8H	22.2	23.1	22.9	23.8	24.5	30.5	31.4	31.2	32.1	32.8
	12H	22.3	23.0	23.0	23.7	24.5	31.7	32.4	32.4	33.1	33.9
8H	4H	23.0	23.8	23.6	24.5	25.3	27.8	28.7	28.5	29.3	30.1
	6H	23.6	24.3	24.3	25.0	25.8	29.9	30.6	30.6	31.3	32.1
	8H	23.8	24.5	24.5	25.2	26.0	31.0	31.6	31.7	32.4	33.1
	12H	24.0	24.5	24.7	25.3	26.1	32.3	32.9	33.0	33.6	34.4
12H	4H	23.3	24.1	24.0	24.8	25.6	27.8	28.6	28.5	29.3	30.1
	6H	24.2	24.8	24.9	25.5	26.3	29.9	30.5	30.6	31.2	32.1
	8H	24.5	25.1	25.2	25.8	26.7	31.1	31.6	31.8	32.4	33.2

Maximum UGR = 34.4

## 4.2 Goniophotometer Test

### Luminous Distribution Intensity Data

Table--1

UNIT: cd

C (DEG) y (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	708	708	708	708	708	708	708	708	708	708	708	708	708	708	708	708	708	708	708
5	704	705	705	705	705	705	705	705	705	705	705	705	704	705	705	705	705	705	705
10	693	694	695	696	697	699	699	699	697	696	695	694	693	694	695	696	697	699	699
15	675	676	679	682	685	689	690	689	685	682	679	676	675	676	679	682	685	689	690
20	649	652	656	663	669	675	677	675	669	663	656	652	649	652	656	663	669	675	677
25	617	621	629	639	649	658	662	658	649	639	629	621	617	621	629	639	649	658	662
30	579	586	597	611	626	639	643	639	626	611	597	586	579	586	597	611	626	639	643
35	536	544	561	580	601	618	623	618	601	580	561	544	536	544	561	580	601	618	623
40	490	500	522	547	574	596	603	596	574	547	522	500	490	500	522	547	574	596	603
45	440	453	481	512	546	571	581	571	546	512	481	453	440	453	481	512	546	571	581
50	388	405	438	478	517	545	556	545	517	478	438	405	388	405	438	478	517	545	556
55	334	354	394	442	486	518	529	518	486	442	394	354	334	354	394	442	486	518	529
60	280	303	352	406	455	489	502	489	455	406	352	303	280	303	352	406	455	489	502
65	224	252	310	369	422	459	472	459	422	369	310	252	224	252	310	369	422	459	472
70	169	203	269	334	391	428	442	428	391	334	269	203	169	203	269	334	391	428	442
75	114	157	230	301	358	398	412	398	358	301	230	157	114	157	230	301	358	398	412
80	64.2	116	195	268	327	366	381	366	327	268	195	116	64.2	116	195	268	327	366	381
85	23.7	81.6	163	237	296	335	350	335	296	237	163	81.6	23.7	81.6	163	237	296	335	350
90	3.45	55.7	137	210	268	307	320	307	268	210	137	55.7	3.45	55.7	137	210	268	307	320
95	2.55	38.6	113	182	238	276	291	276	238	182	113	38.6	2.55	38.6	113	182	238	276	291
100	2.68	24.2	89.9	156	210	244	260	244	210	156	89.9	24.2	2.68	24.2	89.9	156	210	244	260
105	3.04	11.8	68.6	130	180	213	227	213	180	130	68.6	11.8	3.04	11.8	68.6	130	180	213	227
110	3.19	4.46	49.3	104	151	182	194	182	151	104	49.3	4.46	3.19	4.46	49.3	104	151	182	194
115	3.28	3.72	31.4	80.1	123	150	161	150	123	80.1	31.4	3.72	3.28	3.72	31.4	80.1	123	150	161
120	3.63	3.18	15.2	57.2	95.0	120	130	120	95.0	57.2	15.2	3.18	3.63	3.18	15.2	57.2	95.0	120	130
125	3.72	2.86	4.41	35.9	68.9	91.1	100	91.1	68.9	35.9	4.41	2.86	3.72	2.86	4.41	35.9	68.9	91.1	100
130	3.81	2.89	3.10	16.6	44.2	63.5	71.4	63.5	44.2	16.6	3.10	2.89	3.81	2.89	3.10	16.6	44.2	63.5	71.4
135	3.80	2.97	2.36	3.45	21.7	38.0	44.6	38.0	21.7	3.45	2.36	2.97	3.80	2.97	2.36	3.45	21.7	38.0	44.6
140	4.05	2.96	2.24	1.97	3.63	14.6	19.8	14.6	3.63	1.97	2.24	2.96	4.05	2.96	2.24	1.97	3.63	14.6	19.8
145	4.03	2.95	2.22	1.78	1.53	1.49	1.54	1.49	1.53	1.78	2.22	2.95	4.03	2.95	2.22	1.78	1.53	1.49	1.54
150	4.02	3.03	2.12	1.68	1.45	1.42	1.24	1.42	1.45	1.68	2.12	3.03	4.02	3.03	2.12	1.68	1.45	1.42	1.24
155	3.76	2.94	1.90	1.56	1.42	1.33	1.15	1.33	1.42	1.56	1.90	2.94	3.76	2.94	1.90	1.56	1.42	1.33	1.15
160	3.40	2.82	1.79	1.50	1.41	1.32	1.15	1.32	1.41	1.50	1.79	2.82	3.40	2.82	1.79	1.50	1.41	1.32	1.15
165	3.44	2.70	1.65	1.42	1.42	1.34	1.34	1.34	1.42	1.42	1.65	2.70	3.44	2.70	1.65	1.42	1.42	1.34	1.34
170	4.15	2.82	1.64	1.42	1.42	1.43	1.53	1.43	1.42	1.42	1.64	2.82	4.15	2.82	1.64	1.42	1.42	1.43	1.53
175	4.28	2.62	1.70	1.48	1.43	1.47	1.63	1.47	1.43	1.48	1.70	2.62	4.28	2.62	1.70	1.48	1.43	1.47	1.63
180	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01

Table--2

UNIT: cd

C (DEG) y (DEG)	285	300	315	330	345														
0	708	708	708	708	708														
5	705	705	705	705	705														
10	699	697	696	695	694														
15	689	685	682	679	676														
20	675	669	663	656	652														
25	658	649	639	629	621														
30	639	626	611	597	586														
35	618	601	580	561	544														
40	596	574	547	522	500														
45	571	546	512	481	453														
50	545	517	478	438	405														
55	518	486	442	394	354														
60	489	455	406	352	303														
65	459	422	369	310	252														
70	428	391	334	269	203														
75	398	358	301	230	157														
80	366	327	268	195	116														
85	335	296	237	163	81.6														
90	307	268	210	137	55.7														
95	276	238	182	113	38.6														
100	244	210	156	89.9	24.2														
105	213	180	130	68.6	11.8														
110	182	151	104	49.3	4.46														
115	150	123	80.1	31.4	3.72														
120	120	95.0	57.2	15.2	3.18														
125	91.1	68.9	35.9	4.41	2.86														
130	63.5	44.2	16.6	3.10	2.89														
135	38.0	21.7	3.45	2.36	2.97														
140	14.6	3.63	1.97	2.24	2.96														
145	1.49	1.53	1.78	2.22	2.95														
150	1.42	1.45	1.68	2.12	3.03														
155	1.33	1.42	1.56	1.90	2.94														
160	1.32	1.41	1.50	1.79	2.82														
165	1.34	1.42	1.42	1.65	2.70														
170	1.43	1.42	1.42	1.64	2.82														
175	1.47	1.43	1.48	1.70	2.62														
180	2.01	2.01	2.01	2.01	2.01														

## 4.0 LM-79 Measurement and Test Results

### 4.3 THD and PF Test

<b>Model No.</b>	STRP4/MVS @20W3500K	<b>Sample ID</b>	250402001-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 25±1°C. 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	0.171	20.4	0.995	7.45
277.0	60	0.077	20.3	0.956	8.04

## 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\*\*\*\*\*