

Photometric Test Report

Relevant Standards

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

Prepared For

RAB Lighting Inc.

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Issue Date: 2025-01-06

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		768
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Standard	Premium	155.1
			115	130	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		19.8
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)		ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	7.52
				277V	8.47
Power Factor (THD & PF – Section 4.3)		ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.995
				277V	0.954
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)		ANSI/IES LM-79:2019	7 steps	5029±283	4925
			4 steps	5029±220	
Minimum CRI (Integrating Sphere – Section 4.1)		ANSI/IES LM-79:2019 CIE13.3-1995	≥80		83.4
Minimum R9 (Integrating Sphere – Section 4.1)		ANSI/IES LM-79-2019 CIE13.3-1995	≥0		13
Minimum Rf (Integrating Sphere – Section 4.1)		ANSI/IES TM-30-18	≥70		84
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%		-12%
Zonal Lumen Requirement (0°-60°) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	≥40%		56.3%
Discomfort Glare (UGR) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Standard	Premium	30.4
			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		0.166
(Goniophotometer – Section 4.2)			Non-Worst Case		0.074
Power (Input Wattage – W)					
(Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		19.8
(Goniophotometer – Section 4.2)			Non-Worst Case		19.6

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-03	STRP4 @20W5000K	-	241225005-S1
2	Goniophotometer Test	2025-01-03	STRP4 @20W5000K	-	241225005-S1
3	THD and PF Test	2025-01-03	STRP4 @20W5000K	-	241225005-S1

Remark (If any):

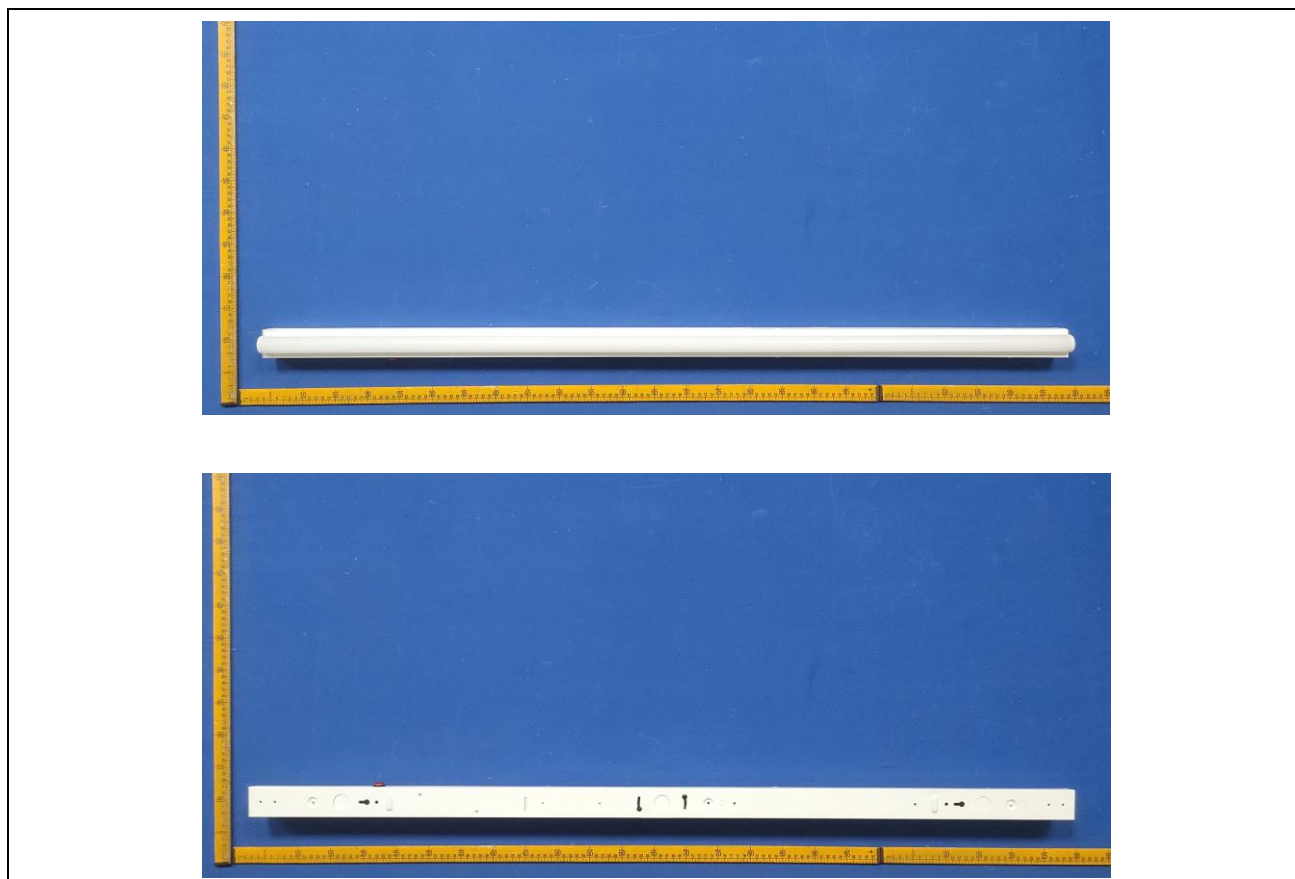
1. The results contained in this report pertain only to the tested samples.
2. This report shall not be reproduced, no limited part or full, without approval of Dongguan New Testing Centre Co., Ltd.
3. This report must not be used by the client to claim product certification, approval, or endorsement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

3.0 Product Description

Luminaire Description: Model No. STRP4 @20W5000K, 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 @20W5000K	Sample ID	241225005-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

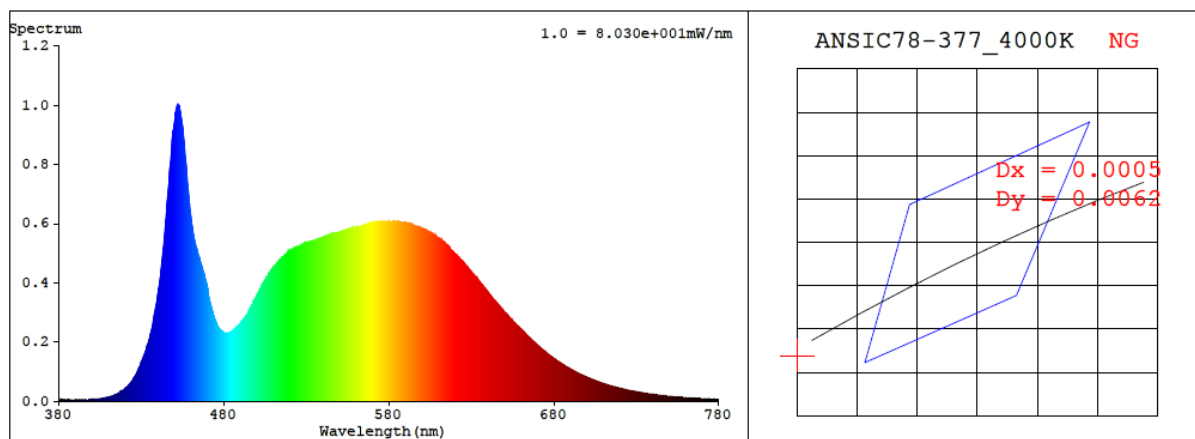
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made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

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
120.0	60	0.166	19.8	0.995
277.0	60	0.074	19.6	0.954

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
4925	83.4	13	0.0029	84	96	-12%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3478$ $y = 0.3596$ / $u' = 0.2101$ $v' = 0.4889$ ($duv=2.90e-03$)

CCT= 4925K Prcp WL: Ld=571.0nm Purity=12.2%

Peak WL: Lp=452nm FWHM: =21.3nm Ratio:R=15.9% G=79.7% B=4.4%

Render Index: Ra = 83.4 AvgR = 76.4 TM30:Rf=84 Rg=95

EEL: 0.08674 A++ Highest

R1 =82 R2 =89 R3 =93 R4 =82 R5 =81 R6 =83 R7 =89

R8 =69 R9 =13 R10=72 R11=81 R12=56 R13=83 R14=96 R15=77

4.1 Integrating Sphere Test

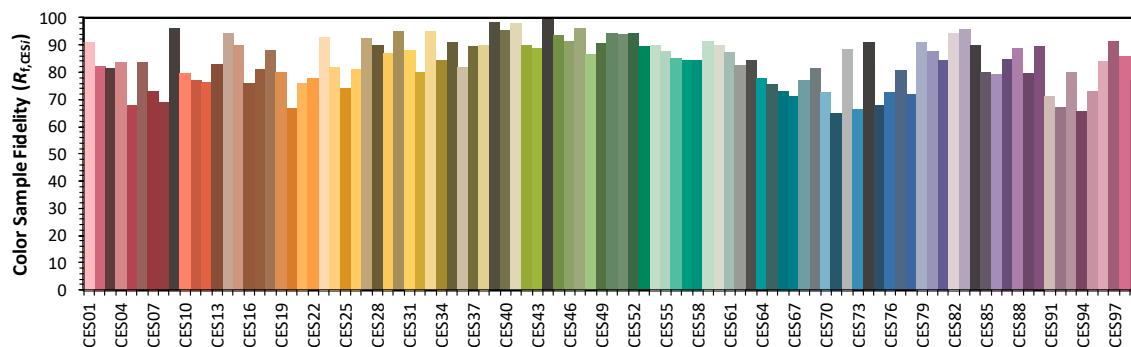
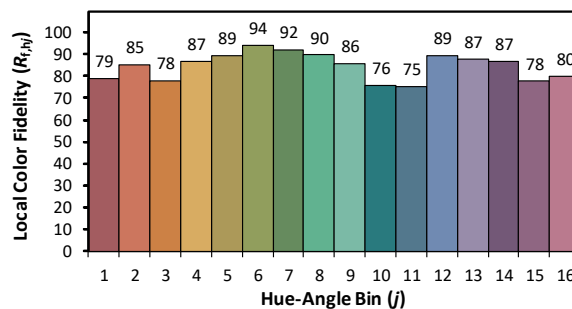
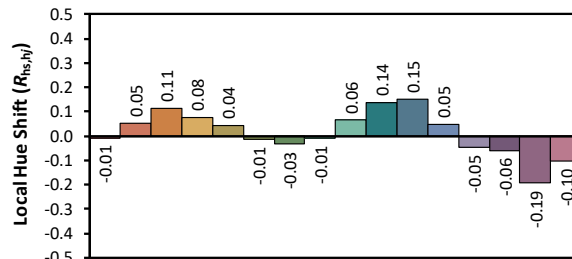
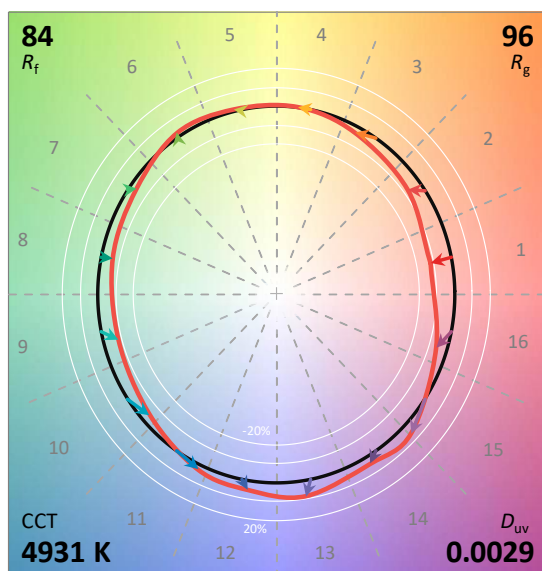
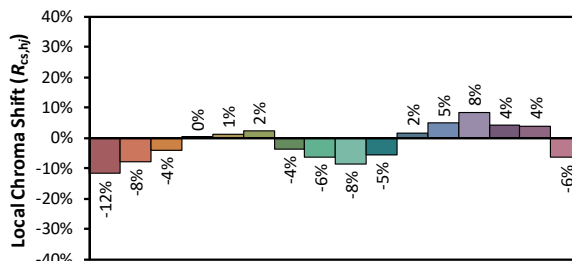
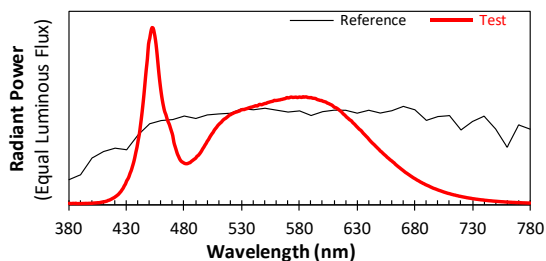
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/6

Model: STRP4 @20W5000K



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

x 0.3477
 y 0.3594
 u' 0.2102
 v' 0.4888

CIE 13.3-1995
(CRI)
 R_a 83
 R_g 14

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	5.10E-06	447	7.62E-04	514	4.78E-04	581	6.05E-04	648	3.15E-04	715	5.17E-05
381	4.70E-06	448	8.23E-04	515	4.83E-04	582	6.05E-04	649	3.09E-04	716	4.94E-05
382	4.00E-06	449	9.06E-04	516	4.87E-04	583	6.09E-04	650	3.02E-04	717	4.86E-05
383	4.90E-06	450	9.37E-04	517	4.92E-04	584	6.06E-04	651	2.97E-04	718	4.64E-05
384	5.00E-06	451	9.75E-04	518	4.98E-04	585	6.07E-04	652	2.90E-04	719	4.53E-05
385	4.50E-06	452	9.99E-04	519	5.04E-04	586	6.07E-04	653	2.84E-04	720	4.40E-05
386	5.80E-06	453	9.96E-04	520	5.06E-04	587	6.04E-04	654	2.78E-04	721	4.25E-05
387	3.40E-06	454	9.68E-04	521	5.11E-04	588	6.04E-04	655	2.73E-04	722	4.13E-05
388	4.10E-06	455	9.30E-04	522	5.14E-04	589	6.03E-04	656	2.66E-04	723	4.00E-05
389	3.80E-06	456	8.76E-04	523	5.17E-04	590	6.04E-04	657	2.61E-04	724	3.88E-05
390	3.90E-06	457	8.08E-04	524	5.20E-04	591	6.01E-04	658	2.55E-04	725	3.73E-05
391	4.20E-06	458	7.40E-04	525	5.22E-04	592	6.00E-04	659	2.49E-04	726	3.63E-05
392	4.50E-06	459	6.81E-04	526	5.24E-04	593	5.99E-04	660	2.45E-04	727	3.51E-05
393	4.40E-06	460	6.30E-04	527	5.27E-04	594	5.98E-04	661	2.39E-04	728	3.43E-05
394	5.00E-06	461	5.87E-04	528	5.28E-04	595	5.94E-04	662	2.34E-04	729	3.32E-05
395	5.10E-06	462	5.53E-04	529	5.33E-04	596	5.91E-04	663	2.27E-04	730	3.17E-05
396	4.70E-06	463	5.25E-04	530	5.35E-04	597	5.90E-04	664	2.21E-04	731	3.10E-05
397	5.30E-06	464	5.08E-04	531	5.36E-04	598	5.87E-04	665	2.16E-04	732	3.00E-05
398	5.30E-06	465	4.85E-04	532	5.36E-04	599	5.87E-04	666	2.11E-04	733	2.90E-05
399	5.70E-06	466	4.67E-04	533	5.39E-04	600	5.84E-04	667	2.06E-04	734	2.83E-05
400	5.50E-06	467	4.52E-04	534	5.40E-04	601	5.82E-04	668	2.00E-04	735	2.73E-05
401	6.60E-06	468	4.31E-04	535	5.43E-04	602	5.80E-04	669	1.95E-04	736	2.65E-05
402	7.10E-06	469	4.11E-04	536	5.45E-04	603	5.77E-04	670	1.90E-04	737	2.56E-05
403	7.70E-06	470	3.88E-04	537	5.48E-04	604	5.73E-04	671	1.85E-04	738	2.49E-05
404	8.10E-06	471	3.50E-04	538	5.49E-04	605	5.71E-04	672	1.79E-04	739	2.44E-05
405	8.90E-06	472	3.28E-04	539	5.51E-04	606	5.67E-04	673	1.76E-04	740	2.34E-05
406	8.90E-06	473	3.06E-04	540	5.53E-04	607	5.64E-04	674	1.71E-04	741	2.25E-05
407	1.00E-05	474	2.85E-04	541	5.55E-04	608	5.61E-04	675	1.66E-04	742	2.20E-05
408	1.15E-05	475	2.71E-04	542	5.58E-04	609	5.56E-04	676	1.62E-04	743	2.12E-05
409	1.27E-05	476	2.56E-04	543	5.56E-04	610	5.50E-04	677	1.57E-04	744	2.04E-05
410	1.32E-05	477	2.46E-04	544	5.59E-04	611	5.47E-04	678	1.53E-04	745	1.99E-05
411	1.50E-05	478	2.40E-04	545	5.64E-04	612	5.44E-04	679	1.49E-04	746	1.95E-05
412	1.66E-05	479	2.36E-04	546	5.64E-04	613	5.40E-04	680	1.45E-04	747	1.87E-05
413	1.85E-05	480	2.32E-04	547	5.63E-04	614	5.35E-04	681	1.41E-04	748	1.80E-05
414	2.19E-05	481	2.30E-04	548	5.66E-04	615	5.30E-04	682	1.37E-04	749	1.76E-05
415	2.35E-05	482	2.30E-04	549	5.68E-04	616	5.25E-04	683	1.33E-04	750	1.70E-05
416	2.68E-05	483	2.31E-04	550	5.70E-04	617	5.18E-04	684	1.29E-04	751	1.66E-05
417	3.00E-05	484	2.34E-04	551	5.71E-04	618	5.10E-04	685	1.25E-04	752	1.60E-05
418	3.40E-05	485	2.36E-04	552	5.75E-04	619	5.06E-04	686	1.22E-04	753	1.55E-05
419	3.70E-05	486	2.42E-04	553	5.76E-04	620	4.99E-04	687	1.18E-04	754	1.50E-05
420	4.17E-05	487	2.47E-04	554	5.78E-04	621	4.92E-04	688	1.16E-04	755	1.44E-05
421	4.63E-05	488	2.52E-04	555	5.80E-04	622	4.87E-04	689	1.12E-04	756	1.42E-05
422	5.15E-05	489	2.57E-04	556	5.82E-04	623	4.81E-04	690	1.09E-04	757	1.38E-05
423	5.70E-05	490	2.62E-04	557	5.84E-04	624	4.76E-04	691	1.06E-04	758	1.32E-05
424	6.49E-05	491	2.71E-04	558	5.88E-04	625	4.72E-04	692	1.03E-04	759	1.28E-05
425	7.21E-05	492	2.76E-04	559	5.87E-04	626	4.63E-04	693	9.99E-05	760	1.26E-05
426	8.21E-05	493	2.83E-04	560	5.88E-04	627	4.57E-04	694	9.69E-05	761	1.22E-05
427	9.13E-05	494	2.92E-04	561	5.88E-04	628	4.51E-04	695	9.39E-05	762	1.16E-05
428	1.05E-05	495	3.02E-04	562	5.90E-04	629	4.43E-04	696	9.07E-05	763	1.15E-05
429	1.15E-05	496	3.14E-04	563	5.91E-04	630	4.37E-04	697	8.86E-05	764	1.10E-05
430	1.32E-05	497	3.23E-04	564	5.93E-04	631	4.30E-04	698	8.64E-05	765	1.06E-05
431	1.43E-05	498	3.35E-04	565	5.94E-04	632	4.23E-04	699	8.37E-05	766	1.05E-05
432	1.56E-05	499	3.45E-04	566	5.96E-04	633	4.19E-04	700	8.11E-05	767	1.02E-05
433	1.76E-05	500	3.57E-04	567	5.97E-04	634	4.12E-04	701	7.87E-05	768	9.60E-06
434	1.91E-05	501	3.66E-04	568	6.00E-04	635	4.03E-04	702	7.67E-05	769	9.50E-06
435	2.13E-05	502	3.78E-04	569	6.04E-04	636	3.97E-04	703	7.43E-05	770	9.10E-06
436	2.35E-05	503	3.89E-04	570	6.02E-04	637	3.90E-04	704	7.20E-05	771	9.10E-06
437	2.62E-05	504	3.99E-04	571	6.03E-04	638	3.83E-04	705	6.95E-05	772	8.70E-06
438	2.94E-05	505	4.07E-04	572	6.05E-04	639	3.77E-04	706	6.74E-05	773	8.40E-06
439	3.23E-05	506	4.19E-04	573	6.07E-04	640	3.69E-04	707	6.54E-05	774	8.00E-06
440	3.62E-05	507	4.28E-04	574	6.04E-04	641	3.61E-04	708	6.33E-05	775	8.00E-06
441	3.97E-05	508	4.35E-04	575	6.05E-04	642	3.54E-04	709	6.13E-05	776	7.60E-06
442	4.46E-05	509	4.45E-04	576	6.06E-04	643	3.47E-04	710	6.01E-05	777	7.50E-06
443	4.98E-05	510	4.52E-04	577	6.06E-04	644	3.41E-04	711	5.80E-05	778	7.00E-06
444	5.56E-05	511	4.58E-04	578	6.04E-04	645	3.35E-04	712	5.60E-05	779	7.00E-06
445	6.20E-05	512	4.64E-04	579	6.05E-04	646	3.28E-04	713	5.46E-05	780	7.00E-06
446	6.92E-05	513	4.71E-04	580	6.07E-04	647	3.22E-04	714	5.26E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	STRP4 @20W5000K	Sample ID	241225005-S1
Operate time (Min.)	30	Stabilization time (Min.)	60
Temperature (°C)	24.8	Humidity (%RH)	41.3

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 25±1°C, 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 ±0.2 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 1.0° vertical intervals and 15° horizontal intervals.</p>

Test Conditions

Condition	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
WORST CASE	120.0	60	0.166	19.8	0.995
NON-WORST CASE	277.0	60	0.074	19.6	0.954

Test Result

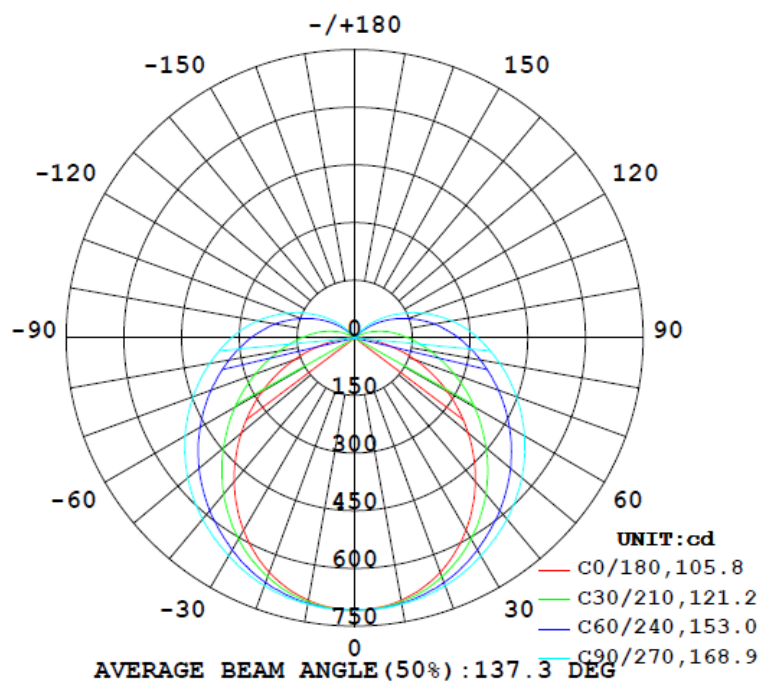
Flux (lm)	Flux per feet (lm/ft)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)
		C0-180	C90-270	C0-180	C90-270	
3071	768	162.3	162.3	106.9	169.1	155.1

Zonal Lumen Requirement (0°-60°)	UGR	
	Crosswise	Endwise
56.3%	22.1	30.4

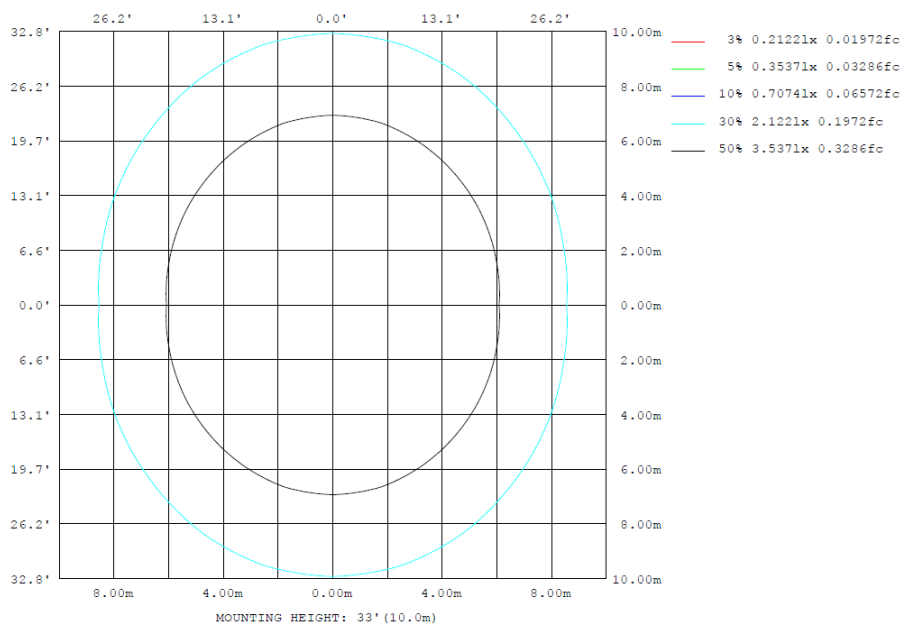
4.2 Goniophotometer Test

Lighting Distribution Curve

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



Isolux Plot



4.2 Goniophotometer Test

Zonal Lumen Summary

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	± zone	± total	%lum, lamp
10	693.3	698.3	703.3	698.3	693.3	698.3	703.3	698.3	0- 10	67.17	67.17	2.19,2.19
20	649.5	668.8	686.5	668.8	649.5	668.8	686.5	668.8	10- 20	194.0	261.1	8.5,8.5
30	578.5	619.8	655.3	619.8	578.5	619.8	655.3	619.8	20- 30	298.3	559.5	18.2,18.2
40	487.9	556.7	615.3	556.7	487.9	556.7	615.3	556.7	30- 40	369.2	928.7	30.2,30.2
50	384.9	487.7	567.1	487.7	384.9	487.7	567.1	487.7	40- 50	402.6	1331	43.3,43.3
60	277.0	414.3	509.3	414.3	277.0	414.3	509.3	414.3	50- 60	398.7	1730	56.3,56.3
70	167.8	340.9	447.4	340.9	167.8	340.9	447.4	340.9	60- 70	363.2	2093	68.2,68.2
80	65.50	271.8	383.0	271.8	65.50	271.8	383.0	271.8	70- 80	305.9	2399	78.1,78.1
90	4.378	211.8	320.1	211.8	4.378	211.8	320.1	211.8	80- 90	240.5	2640	85.9,85.9
100	2.783	156.1	256.8	156.1	2.783	156.1	256.8	156.1	90-100	181.9	2821	91.9,91.9
110	3.545	102.4	188.4	102.4	3.545	102.4	188.4	102.4	100-110	125.3	2947	96,96
120	4.177	53.49	123.4	53.49	4.177	53.49	123.4	53.49	110-120	75.08	3022	98.4,98.4
130	4.125	11.82	64.17	11.82	4.125	11.82	64.17	11.82	120-130	35.58	3057	99.6,99.6
140	4.073	1.885	13.37	1.885	4.073	1.885	13.37	1.885	130-140	10.42	3068	99.9,99.9
150	4.022	1.673	1.110	1.673	4.022	1.673	1.110	1.673	140-150	1.538	3069	99.9,99.9
160	3.706	1.648	1.118	1.648	3.706	1.648	1.118	1.648	150-160	0.9383	3070	100,100
170	4.634	1.647	1.305	1.647	4.634	1.647	1.305	1.647	160-170	0.5849	3071	100,100
180	5.276	1.738	1.401	1.738	5.276	1.738	1.401	1.738	170-180	0.2191	3071	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Zonal (lm)		Total (lm)		Percent
0-10	67.17	0-10	67.17	2.19%
10-20	193.95	0-20	261.12	8.50%
20-30	298.33	0-30	559.45	18.22%
30-40	369.21	0-40	928.66	30.24%
40-50	402.56	0-50	1331.22	43.35%
50-60	398.73	0-60	1729.95	56.33%
60-70	363.21	0-70	2093.16	68.16%
70-80	305.88	0-80	2399.04	78.12%
80-90	240.47	0-90	2639.51	85.95%
90-100	181.89	0-100	2821.40	91.88%
100-110	125.32	0-110	2946.72	95.96%
110-120	75.08	0-120	3021.80	98.40%
120-130	35.58	0-130	3057.38	99.56%
130-140	10.42	0-140	3067.80	99.90%
140-150	1.54	0-150	3069.34	99.95%
150-160	0.94	0-160	3070.28	99.98%
160-170	0.58	0-170	3070.86	100.00%
170-180	0.22	0-180	3071.08	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											
X=2H Y=2H		UGR Viewed Crosswise					UGR Viewed Endwise				
	2H	14.1	15.6	14.7	16.2	16.8	18.4	19.8	18.9	20.4	21.0
	3H	15.5	16.8	16.1	17.4	18.1	21.4	22.7	22.0	23.3	24.0
	4H	15.9	17.2	16.5	17.8	18.5	22.9	24.2	23.5	24.8	25.5
	6H	16.2	17.3	16.8	18.0	18.7	24.6	25.8	25.2	26.4	27.1
	8H	16.2	17.3	16.8	18.0	18.7	25.5	26.6	26.1	27.2	28.0
	12H	16.2	17.3	16.8	17.9	18.7	26.5	27.6	27.1	28.2	28.9
4H	2H	15.5	16.8	16.1	17.4	18.0	18.7	20.0	19.3	20.5	21.2
	3H	17.1	18.2	17.8	18.9	19.6	21.9	23.0	22.5	23.6	24.4
	4H	17.8	18.8	18.4	19.4	20.1	23.6	24.6	24.2	25.3	26.0
	6H	18.1	19.0	18.8	19.7	20.4	25.5	26.4	26.1	27.0	27.8
	8H	18.2	19.1	18.9	19.7	20.5	26.5	27.3	27.1	28.0	28.7
	12H	18.3	19.0	18.9	19.7	20.5	27.6	28.4	28.3	29.1	29.8
8H	4H	18.9	19.8	19.6	20.4	21.2	23.8	24.6	24.4	25.3	26.1
	6H	19.6	20.3	20.3	21.0	21.8	25.8	26.5	26.5	27.2	28.0
	8H	19.8	20.5	20.5	21.2	22.0	26.9	27.6	27.6	28.3	29.1
	12H	20.0	20.5	20.7	21.2	22.1	28.2	28.8	28.9	29.5	30.3
12H	4H	19.3	20.1	20.0	20.8	21.6	23.8	24.6	24.5	25.2	26.0
	6H	20.2	20.8	20.9	21.5	22.3	25.8	26.5	26.5	27.2	28.0
	8H	20.5	21.1	21.2	21.8	22.6	27.0	27.6	27.7	28.3	29.1

Maximum UGR = 30.3

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											
X=2H	Y=2H	18.0	19.5	18.6	20.1	20.7	22.3	23.7	22.8	24.3	24.9
	3H	19.4	20.7	20.0	21.3	22.0	25.3	26.6	25.9	27.2	27.9
	4H	19.8	21.1	20.4	21.7	22.4	26.8	28.1	27.4	28.7	29.4
	6H	20.1	21.2	20.7	21.9	22.6	28.5	29.7	29.1	30.3	31.0
	8H	20.1	21.2	20.7	21.9	22.6	29.4	30.5	30.0	31.1	31.9
	12H	20.1	21.2	20.7	21.8	22.6	30.4	31.5	31.0	32.1	32.8
4H	2H	19.4	20.7	20.0	21.3	21.9	22.6	23.9	23.2	24.4	25.1
	3H	21.0	22.1	21.7	22.8	23.5	25.8	26.9	26.4	27.5	28.3
	4H	21.7	22.7	22.3	23.3	24.0	27.5	28.5	28.1	29.2	29.9
	6H	22.0	22.9	22.7	23.6	24.3	29.4	30.3	30.0	30.9	31.7
	8H	22.1	23.0	22.8	23.6	24.4	30.4	31.2	31.0	31.9	32.6
	12H	22.2	22.9	22.8	23.6	24.4	31.5	32.3	32.2	33.0	33.7
8H	4H	22.8	23.7	23.5	24.3	25.1	27.7	28.5	28.3	29.2	30.0
	6H	23.5	24.2	24.2	24.9	25.7	29.7	30.4	30.4	31.1	31.9
	8H	23.7	24.4	24.4	25.1	25.9	30.8	31.5	31.5	32.2	33.0
	12H	23.9	24.4	24.6	25.1	26.0	32.1	32.7	32.8	33.4	34.2
12H	4H	23.2	24.0	23.9	24.7	25.5	27.7	28.5	28.4	29.1	29.9
	6H	24.1	24.7	24.8	25.4	26.2	29.7	30.4	30.4	31.1	31.9
	8H	24.4	25.0	25.1	25.7	26.5	30.9	31.5	31.6	32.2	33.0

Maximum UGR = 34.2

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	707	707	708	708	708	708	708	708	708	708	708	707	707	707	708	708	708	708	708
5	704	705	706	705	706	707	707	707	706	705	706	705	704	705	706	705	706	707	707
10	693	695	697	698	701	703	703	703	701	698	697	695	693	695	697	698	701	703	703
15	675	678	683	687	692	696	697	696	692	687	683	678	675	678	683	687	692	696	697
20	649	655	662	669	677	684	686	684	677	669	662	655	649	655	662	669	677	684	686
25	617	625	635	647	659	669	672	669	659	647	635	625	617	625	635	647	659	669	672
30	579	590	605	620	638	651	655	651	638	620	605	590	579	590	605	620	638	651	655
35	535	548	569	590	612	631	637	631	612	590	569	548	535	548	569	590	612	631	637
40	488	505	530	557	587	609	615	609	587	557	530	505	488	505	530	557	587	609	615
45	438	457	489	523	558	584	592	584	558	523	489	457	438	457	489	523	558	584	592
50	385	409	446	488	529	557	567	557	529	488	446	409	385	409	446	488	529	557	567
55	331	358	402	451	497	528	539	528	497	451	402	358	331	358	402	451	497	528	539
60	277	307	359	414	464	498	509	498	464	414	359	307	277	307	359	414	464	498	509
65	222	256	317	377	431	467	479	467	431	377	317	256	222	256	317	377	431	467	479
70	168	207	275	341	397	434	447	434	397	341	275	207	168	207	275	341	397	434	447
75	115	161	236	306	364	402	415	402	364	306	236	161	115	161	236	306	364	402	415
80	65.5	120	200	272	332	369	383	369	332	272	200	120	65.5	120	200	272	332	369	383
85	25.6	84.5	167	241	300	337	351	337	300	241	167	84.5	25.6	84.5	167	241	300	337	351
90	4.38	57.9	139	212	270	307	320	307	270	212	139	57.9	4.38	57.9	139	212	270	307	320
95	2.64	39.2	115	184	239	276	289	276	239	184	115	39.2	2.64	39.2	115	184	239	276	289
100	2.78	23.9	90.8	156	211	242	257	242	211	156	90.8	23.9	2.78	23.9	90.8	156	211	242	257
105	3.27	10.6	68.0	129	178	209	222	209	178	129	68.0	10.6	3.27	10.6	68.0	129	178	209	222
110	3.55	3.02	47.6	102	148	177	188	177	148	102	47.6	3.02	3.55	3.02	47.6	102	148	177	188
115	3.82	2.88	28.7	77.1	119	144	155	144	119	77.1	28.7	2.88	3.82	2.88	28.7	77.1	119	144	155
120	4.18	2.90	11.9	53.5	90.3	114	123	114	90.3	53.5	11.9	2.90	4.18	2.90	11.9	53.5	90.3	114	123
125	4.15	2.91	2.75	31.6	63.4	84.1	92.9	84.1	63.4	31.6	2.75	2.91	4.15	2.91	2.75	31.6	63.4	84.1	92.9
130	4.12	2.92	2.48	11.8	38.5	56.8	64.2	56.8	38.5	11.8	2.48	2.92	4.12	2.92	2.48	11.8	38.5	56.8	64.2
135	4.10	3.02	2.37	2.11	16.0	31.6	37.5	31.6	16.0	2.11	2.37	3.02	4.10	3.02	2.37	2.11	16.0	31.6	37.5
140	4.07	3.04	2.28	1.88	1.68	8.82	13.4	8.82	1.68	1.88	2.28	3.04	4.07	3.04	2.28	1.88	1.68	8.82	13.4
145	4.05	3.05	2.21	1.73	1.57	1.48	1.35	1.48	1.57	1.73	2.21	3.05	4.05	3.05	2.21	1.73	1.57	1.48	1.35
150	4.02	3.09	2.11	1.67	1.49	1.48	1.11	1.48	1.49	1.67	2.11	3.09	4.02	3.09	2.11	1.67	1.49	1.48	1.11
155	3.74	3.13	1.96	1.65	1.40	1.49	1.11	1.49	1.40	1.65	1.96	3.13	3.74	3.13	1.96	1.65	1.40	1.49	1.11
160	3.71	3.16	1.90	1.65	1.45	1.49	1.12	1.49	1.45	1.65	1.90	3.16	3.71	3.16	1.90	1.65	1.45	1.49	1.12
165	3.82	3.20	1.91	1.65	1.50	1.49	1.19	1.49	1.50	1.65	1.91	3.20	3.82	3.20	1.91	1.65	1.50	1.49	1.19
170	4.63	3.76	1.92	1.65	1.55	1.49	1.31	1.49	1.55	1.65	1.92	3.76	4.63	3.76	1.92	1.65	1.55	1.49	1.31
175	5.09	3.99	1.99	1.76	1.56	1.49	1.38	1.49	1.56	1.76	1.99	3.99	5.09	3.99	1.99	1.76	1.56	1.49	1.38
180	5.28	4.03	2.11	1.74	1.57	1.58	1.40	1.58	1.57	1.74	2.11	4.03	5.28	4.03	2.11	1.74	1.57	1.58	1.40

Table--2

UNIT: cd

C (DEG) y (DEG)	285	300	315	330	345														
0	708	708	708	708	707														
5	707	706	705	706	705														
10	703	701	698	697	695														
15	696	692	687	683	678														
20	684	677	669	662	655														
25	669	659	647	635	625														
30	651	638	620	605	590														
35	631	612	590	569	548														
40	609	587	557	530	505														
45	584	558	523	489	457														
50	557	529	488	446	409														
55	528	497	451	402	358														
60	498	464	414	359	307														
65	467	431	377	317	256														
70	434	397	341	275	207														
75	402	364	306	236	161														
80	369	332	272	200	120														
85	337	300	241	167	84.5														
90	307	270	212	139	57.9														
95	276	239	184	115	39.2														
100	242	211	156	90.8	23.9														
105	209	178	129	68.0	10.6														
110	177	148	102	47.6	3.02														
115	144	119	77.1	28.7	2.88														
120	114	90.3	53.5	11.9	2.90														
125	84.1	63.4	31.6	2.75	2.91														
130	56.8	38.5	11.8	2.48	2.92														
135	31.6	16.0	2.11	2.37	3.02														
140	8.82	1.68	1.88	2.28	3.04														
145	1.48	1.57	1.73	2.21	3.05														
150	1.48	1.49	1.67	2.11	3.09														
155	1.49	1.40	1.65	1.96	3.13														
160	1.49	1.45	1.65	1.90	3.16														
165	1.49	1.50	1.65	1.91	3.20														
170	1.49	1.55	1.65	1.92	3.76														
175	1.49	1.56	1.76	1.99	3.99														
180	1.58	1.57	1.74	2.11	4.03														

4.0 LM-79 Measurement and Test Results

4.3 THD and PF Test

Model No.	STRP4 @20W5000K	Sample ID	241225005-S1
Temperature (°C)	25.4	Humidity (%RH)	41.0

Test Method
<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 $25 \pm 1^\circ\text{C}$. 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	0.166	19.8	0.995	7.52
277.0	60	0.074	19.6	0.954	8.47

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*****