

## Photometric Test Report

### Relevant Standards

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

Prepared For

**RAB Lighting Inc.**

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Prepared By

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Issue Date: 2025-01-04

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		597
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		8.0
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)		ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	5.84
				277V	17.19
Power Factor (THD & PF – Section 4.3)		ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.989
				277V	0.882
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)		ANSI/IES LM-79:2019	7 steps	3985±275	4095
			4 steps	3985±154	
Minimum CRI (Integrating Sphere – Section 4.1)		ANSI/IES LM-79:2019 CIE13.3-1995	≥80		84.9
Minimum R9 (Integrating Sphere – Section 4.1)		ANSI/IES LM-79-2019 CIE13.3-1995	≥0		17
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%		-11%
Zonal Lumen Requirement (0°-60°) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	≥40%		55.7%
Discomfort Glare (UGR) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Standard	Premium	29.3
			N/A	<22	
Input Voltage (V)					
(Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Cast		277.0
(Goniophotometer – Section 4.2)			Non-Worst Case		120.0
Input Current (A)					
(Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		0.033
(Goniophotometer – Section 4.2)			Non-Worst Case		0.063
Power (Input Wattage – W)					
(Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		8.0
(Goniophotometer – Section 4.2)			Non-Worst Case		7.5

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-02	STRP2 @8W4000K	-	241225003-S1
2	Goniophotometer Test	2025-01-02	STRP2 @8W4000K	-	241225003-S1
3	THD and PF Test	2025-01-02	STRP2 @8W4000K	-	241225003-S1

### Remark (If any):

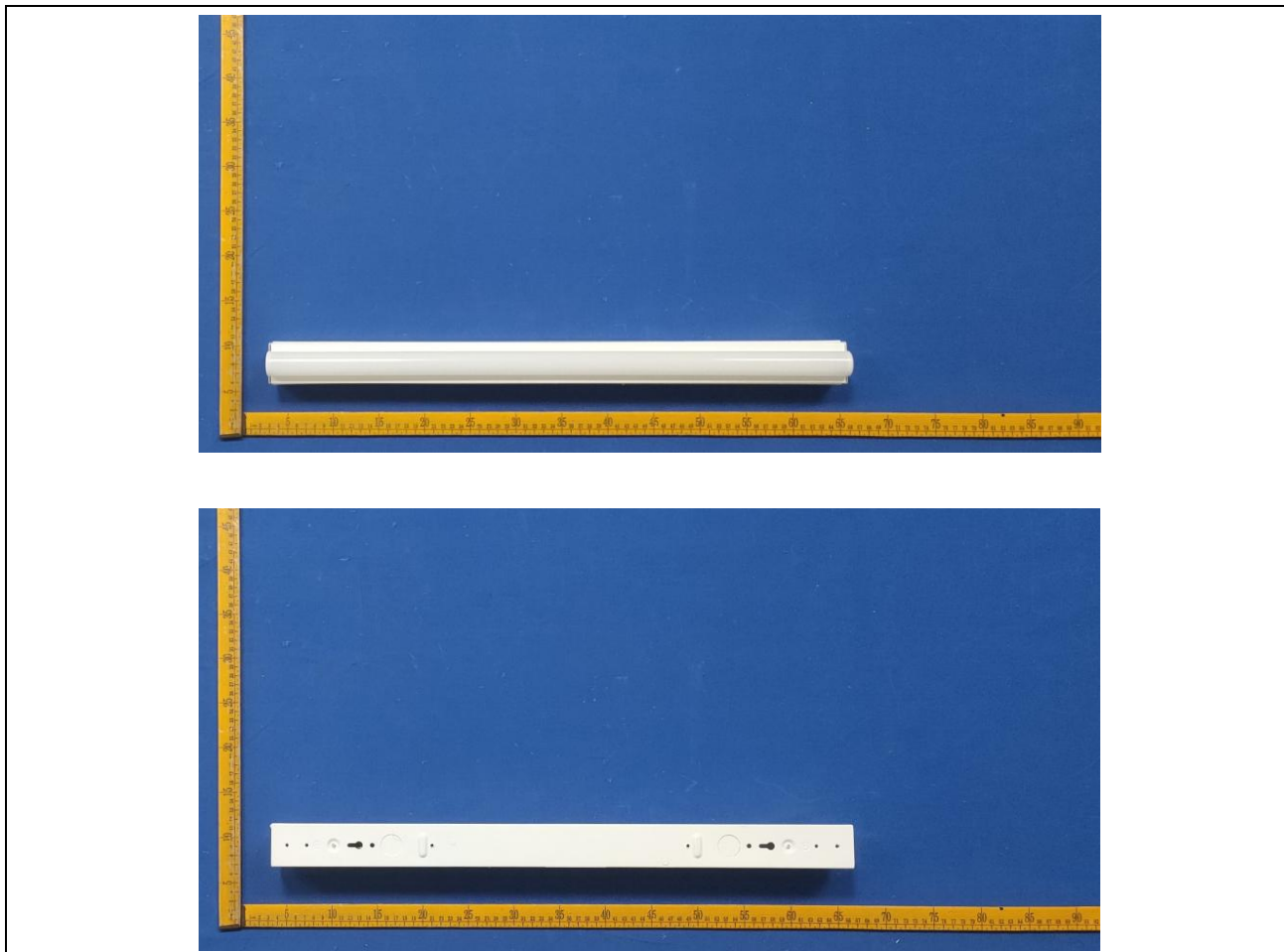
1. The results contained in this report pertain only to the tested samples.
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3. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. Government.

### 3.0 Product Description

Luminaire Description: Model No. STRP2 @8W4000K, 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

<b>Model No.</b>	STRP2 @8W4000K	<b>Sample ID</b>	241225003-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

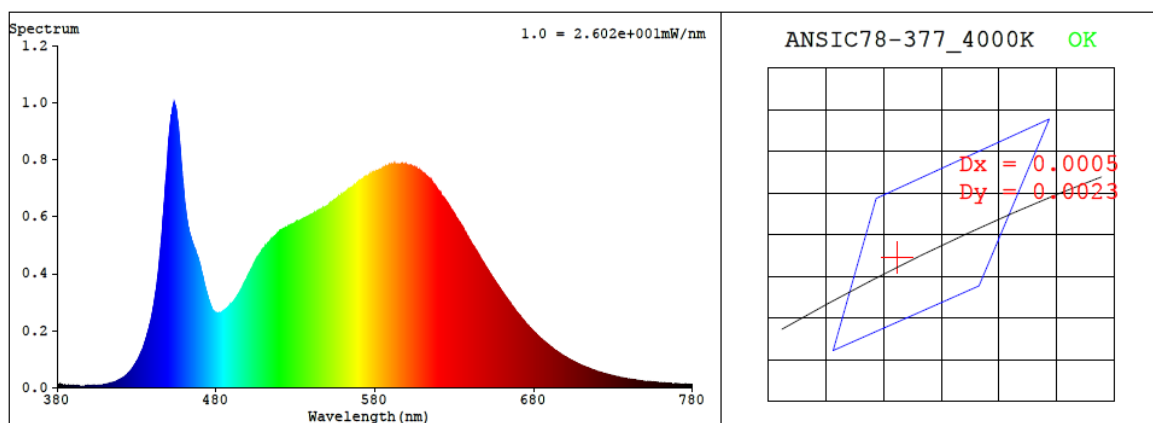
<b>Test Method</b>
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were 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	0.063	7.5	0.989
277.0	60	0.033	8.0	0.882

<b>CCT (K)</b>	<b>CRI</b>	<b>R9</b>	<b>Duv</b>	<b>Rf</b>	<b>Rg</b>	<b>IES Rcs,h1</b>
4095	84.9	17	0.0009	85	95	-11%

## 4.1 Integrating Sphere Test



### Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.3769$   $y = 0.3765$  /  $u' = 0.2229$   $v' = 0.5009$  ( $duv=9.30e-04$ )

CCT= 4095K Prcp WL:  $L_d=578.2nm$  Purity=26.1%

Peak WL:  $L_p=454nm$  FWHM:  $=20.9nm$  Ratio:  $R=18.3\%$   $G=77.8\%$   $B=3.9\%$

Render Index:  $R_a = 84.9$  AvgR = 78.7 TM30:  $R_f=85$   $R_g=95$

EEL: 0.09050 A++ Highest

R1 =84	R2 =91	R3 =96	R4 =83	R5 =83	R6 =87	R7 =87
R8 =67	R9 =17	R10=79	R11=82	R12=62	R13=86	R14=98
						R15=78

## 4.1 Integrating Sphere Test

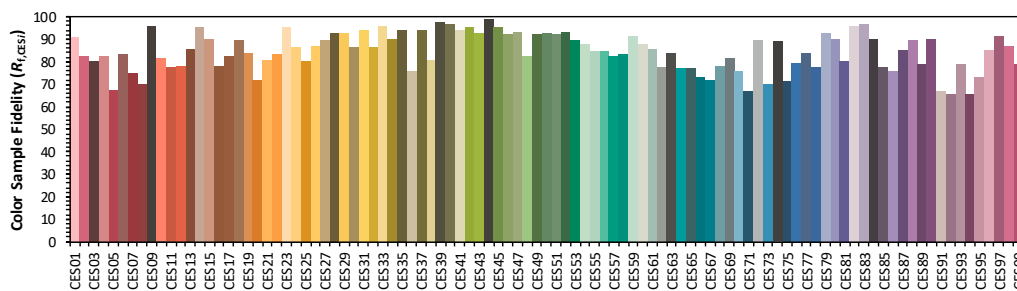
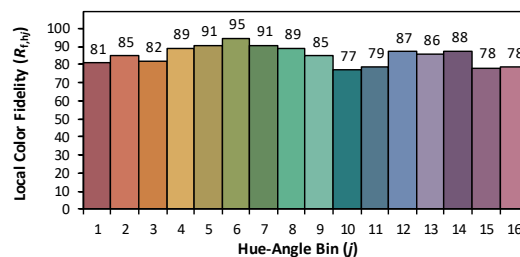
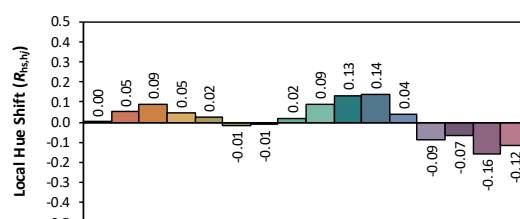
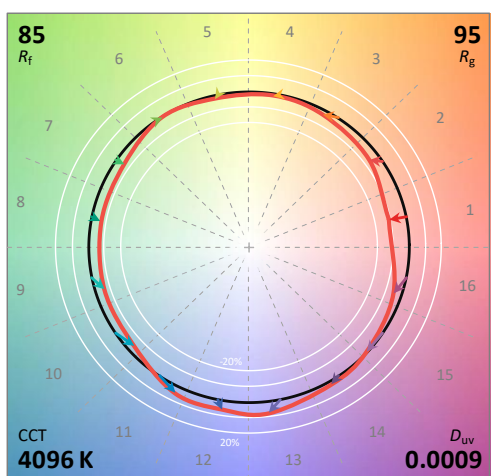
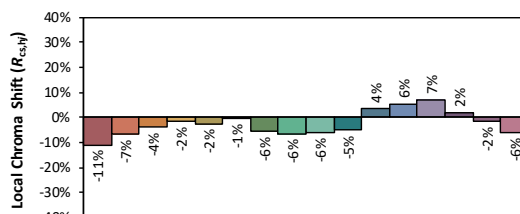
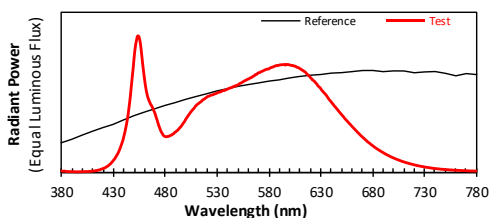
### ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/4

Model: STRP2 @8W4000K



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

$x$  0.3769  
 $y$  0.3763  
 $u'$  0.2229  
 $v'$  0.5009

CIE 13.3-1995  
(CRI)  
 $R_a$  85  
 $R_g$  17

## 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	1.18E-05	447	6.21E-04	514	5.13E-04	581	7.60E-04	648	4.41E-04	715	6.76E-05
381	1.00E-05	448	6.96E-04	515	5.20E-04	582	7.62E-04	649	4.32E-04	716	6.51E-05
382	1.12E-05	449	7.68E-04	516	5.28E-04	583	7.65E-04	650	4.23E-04	717	6.32E-05
383	1.08E-05	450	8.53E-04	517	5.32E-04	584	7.67E-04	651	4.14E-04	718	6.15E-05
384	8.10E-06	451	9.16E-04	518	5.37E-04	585	7.72E-04	652	4.06E-04	719	5.95E-05
385	8.50E-06	452	9.57E-04	519	5.43E-04	586	7.74E-04	653	3.96E-04	720	5.70E-05
386	7.60E-06	453	9.90E-04	520	5.48E-04	587	7.77E-04	654	3.87E-04	721	5.56E-05
387	8.10E-06	454	9.92E-04	521	5.54E-04	588	7.78E-04	655	3.79E-04	722	5.39E-05
388	7.20E-06	455	9.72E-04	522	5.55E-04	589	7.79E-04	656	3.71E-04	723	5.21E-05
389	6.80E-06	456	9.29E-04	523	5.59E-04	590	7.80E-04	657	3.62E-04	724	5.03E-05
390	7.50E-06	457	8.63E-04	524	5.62E-04	591	7.83E-04	658	3.54E-04	725	4.92E-05
391	6.80E-06	458	7.92E-04	525	5.64E-04	592	7.82E-04	659	3.47E-04	726	4.70E-05
392	6.50E-06	459	7.30E-04	526	5.66E-04	593	7.84E-04	660	3.38E-04	727	4.58E-05
393	6.50E-06	460	6.70E-04	527	5.70E-04	594	7.85E-04	661	3.30E-04	728	4.44E-05
394	5.80E-06	461	6.18E-04	528	5.72E-04	595	7.84E-04	662	3.22E-04	729	4.32E-05
395	5.90E-06	462	5.78E-04	529	5.75E-04	596	7.81E-04	663	3.14E-04	730	4.18E-05
396	6.10E-06	463	5.48E-04	530	5.79E-04	597	7.86E-04	664	3.06E-04	731	4.02E-05
397	6.40E-06	464	5.27E-04	531	5.83E-04	598	7.84E-04	665	2.99E-04	732	3.90E-05
398	7.20E-06	465	5.09E-04	532	5.84E-04	599	7.84E-04	666	2.90E-04	733	3.82E-05
399	6.70E-06	466	4.92E-04	533	5.86E-04	600	7.82E-04	667	2.84E-04	734	3.68E-05
400	6.70E-06	467	4.82E-04	534	5.89E-04	601	7.80E-04	668	2.75E-04	735	3.57E-05
401	7.10E-06	468	4.63E-04	535	5.94E-04	602	7.78E-04	669	2.68E-04	736	3.44E-05
402	7.80E-06	469	4.47E-04	536	5.96E-04	603	7.78E-04	670	2.61E-04	737	3.33E-05
403	7.80E-06	470	4.29E-04	537	5.96E-04	604	7.74E-04	671	2.54E-04	738	3.23E-05
404	8.10E-06	471	4.03E-04	538	6.00E-04	605	7.74E-04	672	2.47E-04	739	3.12E-05
405	7.90E-06	472	3.82E-04	539	6.03E-04	606	7.70E-04	673	2.40E-04	740	3.04E-05
406	8.70E-06	473	3.56E-04	540	6.07E-04	607	7.65E-04	674	2.33E-04	741	2.93E-05
407	9.30E-06	474	3.34E-04	541	6.09E-04	608	7.63E-04	675	2.26E-04	742	2.87E-05
408	9.70E-06	475	3.14E-04	542	6.14E-04	609	7.60E-04	676	2.20E-04	743	2.78E-05
409	1.05E-05	476	2.96E-04	543	6.15E-04	610	7.54E-04	677	2.15E-04	744	2.69E-05
410	1.14E-05	477	2.84E-04	544	6.18E-04	611	7.51E-04	678	2.09E-04	745	2.62E-05
411	1.23E-05	478	2.71E-04	545	6.22E-04	612	7.44E-04	679	2.02E-04	746	2.51E-05
412	1.34E-05	479	2.65E-04	546	6.24E-04	613	7.41E-04	680	1.97E-04	747	2.47E-05
413	1.52E-05	480	2.62E-04	547	6.30E-04	614	7.35E-04	681	1.91E-04	748	2.42E-05
414	1.57E-05	481	2.60E-04	548	6.30E-04	615	7.31E-04	682	1.85E-04	749	2.34E-05
415	1.83E-05	482	2.63E-04	549	6.34E-04	616	7.22E-04	683	1.80E-04	750	2.28E-05
416	1.97E-05	483	2.63E-04	550	6.37E-04	617	7.14E-04	684	1.75E-04	751	2.22E-05
417	2.20E-05	484	2.67E-04	551	6.42E-04	618	7.08E-04	685	1.70E-04	752	2.17E-05
418	2.52E-05	485	2.70E-04	552	6.48E-04	619	7.00E-04	686	1.65E-04	753	2.13E-05
419	2.75E-05	486	2.74E-04	553	6.50E-04	620	6.91E-04	687	1.60E-04	754	2.04E-05
420	3.04E-05	487	2.79E-04	554	6.55E-04	621	6.85E-04	688	1.56E-04	755	1.98E-05
421	3.41E-05	488	2.83E-04	555	6.60E-04	622	6.74E-04	689	1.51E-04	756	1.95E-05
422	3.66E-05	489	2.92E-04	556	6.64E-04	623	6.69E-04	690	1.47E-04	757	1.90E-05
423	4.18E-05	490	2.96E-04	557	6.69E-04	624	6.63E-04	691	1.43E-04	758	1.83E-05
424	4.61E-05	491	3.03E-04	558	6.71E-04	625	6.53E-04	692	1.38E-04	759	1.79E-05
425	5.13E-05	492	3.09E-04	559	6.77E-04	626	6.46E-04	693	1.34E-04	760	1.76E-05
426	5.80E-05	493	3.18E-04	560	6.79E-04	627	6.35E-04	694	1.30E-04	761	1.70E-05
427	6.44E-05	494	3.27E-04	561	6.83E-04	628	6.26E-04	695	1.26E-04	762	1.68E-05
428	7.28E-05	495	3.35E-04	562	6.88E-04	629	6.19E-04	696	1.22E-04	763	1.63E-05
429	8.18E-05	496	3.45E-04	563	6.90E-04	630	6.10E-04	697	1.18E-04	764	1.62E-05
430	9.15E-05	497	3.57E-04	564	6.96E-04	631	5.99E-04	698	1.15E-04	765	1.58E-05
431	1.00E-04	498	3.66E-04	565	7.01E-04	632	5.91E-04	699	1.11E-04	766	1.54E-05
432	1.13E-04	499	3.78E-04	566	7.04E-04	633	5.81E-04	700	1.08E-04	767	1.47E-05
433	1.25E-04	500	3.92E-04	567	7.12E-04	634	5.74E-04	701	1.05E-04	768	1.47E-05
434	1.38E-04	501	4.02E-04	568	7.13E-04	635	5.65E-04	702	1.01E-04	769	1.45E-05
435	1.54E-04	502	4.14E-04	569	7.20E-04	636	5.56E-04	703	9.83E-05	770	1.39E-05
436	1.72E-04	503	4.24E-04	570	7.25E-04	637	5.43E-04	704	9.52E-05	771	1.39E-05
437	1.93E-04	504	4.35E-04	571	7.27E-04	638	5.33E-04	705	9.22E-05	772	1.35E-05
438	2.14E-04	505	4.44E-04	572	7.31E-04	639	5.24E-04	706	8.97E-05	773	1.31E-05
439	2.36E-04	506	4.54E-04	573	7.35E-04	640	5.15E-04	707	8.67E-05	774	1.28E-05
440	2.67E-04	507	4.62E-04	574	7.38E-04	641	5.05E-04	708	8.38E-05	775	1.24E-05
441	2.99E-04	508	4.71E-04	575	7.41E-04	642	4.97E-04	709	8.15E-05	776	1.23E-05
442	3.35E-04	509	4.83E-04	576	7.45E-04	643	4.86E-04	710	7.87E-05	777	1.21E-05
443	3.76E-04	510	4.89E-04	577	7.48E-04	644	4.78E-04	711	7.63E-05	778	1.19E-05
444	4.23E-04	511	4.97E-04	578	7.51E-04	645	4.69E-04	712	7.42E-05	779	1.17E-05
445	4.82E-04	512	5.01E-04	579	7.52E-04	646	4.60E-04	713	7.13E-05	780	1.17E-05
446	5.44E-04	513	5.08E-04	580	7.53E-04	647	4.50E-04	714	6.96E-05	N/A	N/A



## 4.0 LM-79 Measurement and Test Results

### 4.2 Goniophotometer Test

<b>Model No.</b>	STRP2 @8W4000K	<b>Sample ID</b>	241225003-S1
<b>Operate time (Min.)</b>	30	<b>Stabilization time (Min.)</b>	60
<b>Temperature (°C)</b>	24.7	<b>Humidity (%RH)</b>	41.3

<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>	277.0	60	0.033	8.0	0.882
<b>NON-WORST CASE</b>	120.0	60	0.063	7.5	0.989

#### Test Result

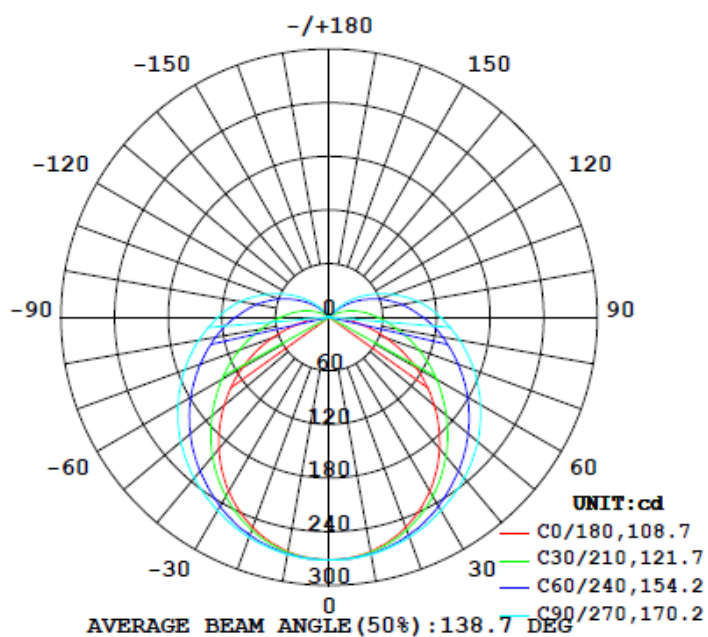
Flux (lm)	Flux per feet (lm/ft)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)
		C0-180	C90-270	C0-180	C90-270	
1193	597	163.2	163.2	109.3	170.2	149.1

Zonal Lumen Requirement	UGR	
(0°-60°)	Crosswise	Endwise
55.7%	21.2	29.3

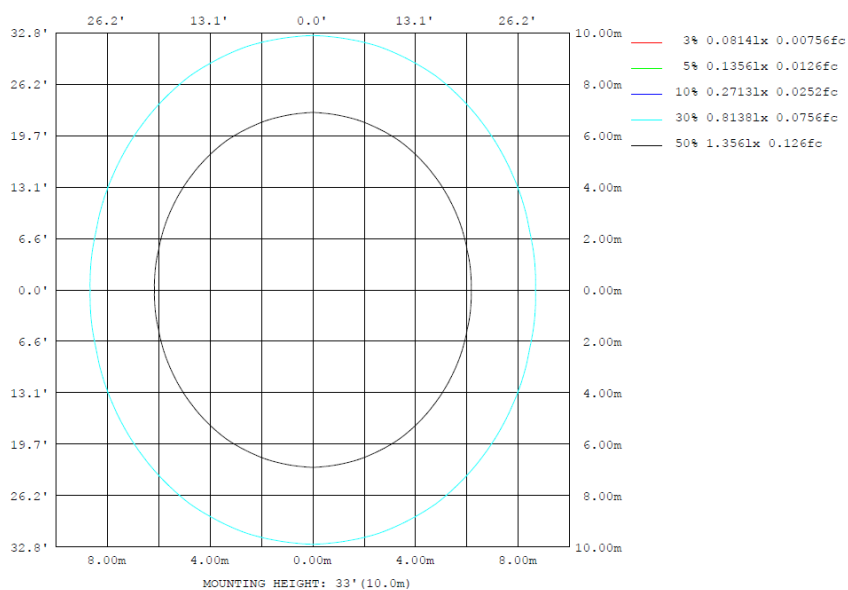
## 4.2 Goniophotometer Test

### 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	266.1	267.6	269.3	267.6	266.1	267.6	269.3	267.6	0- 10	25.74	25.74	2.16,2.16
20	250.3	256.1	261.7	256.1	250.3	256.1	261.7	256.1	10- 20	74.26	100.0	8.38,8.38
30	224.7	237.4	250.1	237.4	224.7	237.4	250.1	237.4	20- 30	114.2	214.3	18,18
40	192.0	213.8	234.9	213.8	192.0	213.8	234.9	213.8	30- 40	141.6	355.8	29.8,29.8
50	153.5	187.1	216.9	187.1	153.5	187.1	216.9	187.1	40- 50	154.7	510.6	42.8,42.8
60	111.7	159.8	195.4	159.8	111.7	159.8	195.4	159.8	50- 60	153.8	664.3	55.7,55.7
70	67.82	131.9	172.1	131.9	67.82	131.9	172.1	131.9	60- 70	140.5	804.9	67.5,67.5
80	26.84	106.1	148.1	106.1	26.84	106.1	148.1	106.1	70- 80	118.7	923.5	77.4,77.4
90	2.846	82.61	124.6	82.61	2.846	82.61	124.6	82.61	80- 90	93.87	1017	85.3,85.3
100	2.063	61.91	101.0	61.91	2.063	61.91	101.0	61.91	90-100	71.34	1089	91.3,91.3
110	2.063	41.33	75.03	41.33	2.063	41.33	75.03	41.33	100-110	50.25	1139	95.5,95.5
120	2.063	23.03	50.21	23.03	2.063	23.03	50.21	23.03	110-120	30.96	1170	98.1,98.1
130	2.063	7.085	27.76	7.085	2.063	7.085	27.76	7.085	120-130	15.61	1186	99.4,99.4
140	2.063	1.473	7.747	1.473	2.063	1.473	7.747	1.473	130-140	5.404	1191	99.8,99.8
150	2.063	1.111	0.8926	1.111	2.063	1.111	0.8926	1.111	140-150	1.116	1192	99.9,99.9
160	2.063	0.9369	0.7673	0.9369	2.063	0.9369	0.7673	0.9369	150-160	0.5799	1193	100,100
170	2.248	1.139	0.8969	1.139	2.248	1.139	0.8969	1.139	160-170	0.3416	1193	100,100
180	2.532	1.464	0.8341	1.464	2.532	1.464	0.8341	1.464	170-180	0.1190	1193	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

	Zonal (lm)		Total (lm)	Percent
0-10	25.74	0-10	25.74	2.16%
10-20	74.26	0-20	100.00	8.38%
20-30	114.25	0-30	214.25	17.96%
30-40	141.58	0-40	355.83	29.83%
40-50	154.74	0-50	510.57	42.80%
50-60	153.77	0-60	664.34	55.69%
60-70	140.51	0-70	804.85	67.47%
70-80	118.65	0-80	923.50	77.41%
80-90	93.87	0-90	1017.37	85.28%
90-100	71.34	0-100	1088.71	91.26%
100-110	50.25	0-110	1138.96	95.47%
110-120	30.96	0-120	1169.92	98.07%
120-130	15.61	0-130	1185.53	99.38%
130-140	5.40	0-140	1190.93	99.83%
140-150	1.12	0-150	1192.05	99.92%
150-160	0.58	0-160	1192.63	99.97%
160-170	0.34	0-170	1192.97	100.00%
170-180	0.12	0-180	1193.09	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	16.5	17.9	17.1	18.5	19.2	20.6	22.0	21.2	22.6	23.3
	3H	17.9	19.2	18.5	19.8	20.5	23.6	24.9	24.2	25.5	26.2
	4H	18.3	19.6	18.9	20.2	20.9	25.1	26.4	25.8	27.0	27.7
	6H	18.6	19.7	19.2	20.4	21.1	26.8	28.0	27.4	28.6	29.3
	8H	18.6	19.8	19.3	20.4	21.1	27.7	28.8	28.3	29.4	30.1
	12H	18.6	19.7	19.3	20.4	21.1	28.6	29.7	29.2	30.3	31.1
4H	2H	17.8	19.1	18.4	19.7	20.4	20.9	22.2	21.5	22.8	23.5
	3H	19.5	20.6	20.1	21.2	22.0	24.2	25.2	24.8	25.9	26.6
	4H	20.1	21.1	20.7	21.8	22.5	25.8	26.8	26.5	27.5	28.2
	6H	20.5	21.4	21.2	22.1	22.8	27.7	28.6	28.3	29.2	30.0
	8H	20.6	21.4	21.3	22.1	22.9	28.7	29.5	29.3	30.2	31.0
	12H	20.6	21.4	21.3	22.1	22.9	29.7	30.5	30.4	31.2	32.0
8H	4H	21.3	22.1	21.9	22.8	23.6	26.0	26.8	26.7	27.5	28.3
	6H	22.0	22.7	22.6	23.4	24.2	28.0	28.7	28.7	29.4	30.2
	8H	22.2	22.8	22.9	23.5	24.3	29.1	29.8	29.8	30.5	31.3
	12H	22.3	22.9	23.0	23.6	24.5	30.4	31.0	31.1	31.7	32.5
12H	4H	21.7	22.4	22.3	23.1	23.9	26.0	26.8	26.7	27.5	28.3
	6H	22.5	23.1	23.2	23.8	24.7	28.1	28.7	28.8	29.4	30.2
	8H	22.8	23.4	23.5	24.1	25.0	29.2	29.8	29.9	30.5	31.4
Maximum UGR = 32.5											

Maximum UGR = 32.5

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	17.1	18.5	17.7	19.1	19.8	21.2	22.6	21.8	23.2	23.9
	3H	18.5	19.8	19.1	20.4	21.1	24.2	25.5	24.8	26.1	26.8
	4H	18.9	20.2	19.5	20.8	21.5	25.7	27.0	26.4	27.6	28.3
	6H	19.2	20.3	19.8	21.0	21.7	27.4	28.6	28.0	29.2	29.9
	8H	19.2	20.4	19.9	21.0	21.7	28.3	29.4	28.9	30.0	30.7
	12H	19.2	20.3	19.9	21.0	21.7	29.2	30.3	29.8	30.9	31.7
4H	2H	18.4	19.7	19.0	20.3	21.0	21.5	22.8	22.1	23.4	24.1
	3H	20.1	21.2	20.7	21.8	22.6	24.8	25.8	25.4	26.5	27.2
	4H	20.7	21.7	21.3	22.4	23.1	26.4	27.4	27.1	28.1	28.8
	6H	21.1	22.0	21.8	22.7	23.4	28.3	29.2	28.9	29.8	30.6
	8H	21.2	22.0	21.9	22.7	23.5	29.3	30.1	29.9	30.8	31.6
	12H	21.2	22.0	21.9	22.7	23.5	30.3	31.1	31.0	31.8	32.6
8H	4H	21.9	22.7	22.5	23.4	24.2	26.6	27.4	27.3	28.1	28.9
	6H	22.6	23.3	23.2	24.0	24.8	28.6	29.3	29.3	30.0	30.8
	8H	22.8	23.4	23.5	24.1	24.9	29.7	30.4	30.4	31.1	31.9
	12H	22.9	23.5	23.6	24.2	25.1	31.0	31.6	31.7	32.3	33.1
12H	4H	22.3	23.0	22.9	23.7	24.5	26.6	27.4	27.3	28.1	28.9
	6H	23.1	23.7	23.8	24.4	25.3	28.7	29.3	29.4	30.0	30.8
	8H	23.4	24.0	24.1	24.7	25.6	29.8	30.4	30.5	31.1	32.0
Maximum UGR = 33.1											

Maximum UGR = 33.1

## 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	271	271	271	272	272	271	272	271	272	272	271	271	271	271	271	272	272	271	272
5	270	270	270	271	271	271	271	271	271	271	270	270	270	270	270	271	271	271	271
10	266	267	267	268	269	269	269	269	269	268	267	267	266	267	267	268	269	269	269
15	259	260	261	263	265	266	266	266	265	263	261	260	259	260	261	263	265	266	266
20	250	251	253	256	260	262	262	262	260	256	253	251	250	251	253	256	260	262	262
25	238	240	243	248	253	255	257	255	253	248	243	240	238	240	243	248	253	255	257
30	225	227	231	237	244	248	250	248	244	237	231	227	225	227	231	237	244	248	250
35	209	211	218	226	235	240	243	240	235	226	218	211	209	211	218	226	235	240	243
40	192	194	203	214	225	232	235	232	225	214	203	194	192	194	203	214	225	232	235
45	173	177	187	200	214	223	226	223	214	200	187	177	173	177	187	200	214	223	226
50	154	158	171	187	203	213	217	213	203	187	171	158	154	158	171	187	203	213	217
55	133	139	155	174	191	202	206	202	191	174	155	139	133	139	155	174	191	202	206
60	112	120	139	160	179	191	195	191	179	160	139	120	112	120	139	160	179	191	195
65	89.9	100	123	146	166	179	184	179	166	146	123	100	89.9	100	123	146	166	179	184
70	67.8	80.5	107	132	154	168	172	168	154	132	107	80.5	67.8	80.5	107	132	154	168	172
75	46.3	62.6	91.6	119	141	155	160	155	141	119	91.6	62.6	46.3	62.6	91.6	119	141	155	160
80	26.8	46.5	77.7	106	129	143	148	143	129	106	77.7	46.5	26.8	46.5	77.7	106	129	143	148
85	11.0	33.1	65.5	94.3	117	131	136	131	117	94.3	65.5	33.1	11.0	33.1	65.5	94.3	117	131	136
90	2.85	23.2	54.1	82.6	105	119	125	119	105	82.6	54.1	23.2	2.85	23.2	54.1	82.6	105	119	125
95	2.06	16.3	45.0	72.1	93.3	107	113	107	93.3	72.1	45.0	16.3	2.06	16.3	45.0	72.1	93.3	107	113
100	2.06	10.6	36.1	61.9	82.4	95.2	101	95.2	82.4	61.9	36.1	10.6	2.06	10.6	36.1	61.9	82.4	95.2	101
105	2.06	5.59	28.1	51.4	71.0	83.1	88.2	83.1	71.0	51.4	28.1	5.59	2.06	5.59	28.1	51.4	71.0	83.1	88.2
110	2.06	2.51	20.3	41.3	59.4	70.6	75.0	70.6	59.4	41.3	20.3	2.51	2.06	2.51	20.3	41.3	59.4	70.6	75.0
115	2.06	2.26	13.1	31.9	48.2	58.5	62.4	58.5	48.2	31.9	13.1	2.26	2.06	2.26	13.1	31.9	48.2	58.5	62.4
120	2.06	2.17	6.68	23.0	37.4	46.8	50.2	46.8	37.4	23.0	6.68	2.17	2.06	2.17	6.68	23.0	37.4	46.8	50.2
125	2.06	2.07	2.40	14.7	27.4	35.6	38.6	35.6	27.4	14.7	2.40	2.07	2.06	2.07	2.40	14.7	27.4	35.6	38.6
130	2.06	2.04	2.06	7.08	17.8	25.2	27.8	25.2	17.8	7.08	2.06	2.04	2.06	2.04	2.06	7.08	17.8	25.2	27.8
135	2.06	2.01	1.91	2.03	8.90	15.2	17.4	15.2	8.90	2.03	1.91	2.01	2.06	2.01	1.91	2.03	8.90	15.2	17.4
140	2.06	1.98	1.86	1.47	2.05	5.92	7.75	5.92	2.05	1.47	1.86	1.98	2.06	1.98	1.86	1.47	2.05	5.92	7.75
145	2.06	1.96	1.69	1.29	1.31	1.25	1.30	1.25	1.31	1.29	1.69	1.96	2.06	1.96	1.69	1.29	1.31	1.25	1.30
150	2.06	1.89	1.57	1.11	1.16	0.92	0.89	0.92	1.16	1.11	1.57	1.89	2.06	1.89	1.57	1.11	1.16	0.92	0.89
155	2.06	1.70	1.48	1.02	1.04	0.78	0.80	0.78	1.04	1.02	1.48	1.70	2.06	1.70	1.48	1.02	1.04	0.78	0.80
160	2.06	1.58	1.37	0.94	1.12	0.64	0.77	0.64	1.12	0.94	1.37	1.58	2.06	1.58	1.37	0.94	1.12	0.64	0.77
165	2.06	1.55	1.35	1.01	1.15	0.68	0.83	0.68	1.15	1.01	1.35	1.55	2.06	1.55	1.35	1.01	1.15	0.68	0.83
170	2.25	1.52	1.32	1.14	1.18	0.73	0.90	0.73	1.18	1.14	1.32	1.52	2.25	1.52	1.32	1.14	1.18	0.73	0.90
175	2.48	1.50	1.30	1.05	1.11	0.83	0.87	0.83	1.11	1.05	1.30	1.50	2.48	1.50	1.30	1.05	1.11	0.83	0.87
180	2.53	1.49	1.29	1.46	1.11	0.83	0.83	0.83	1.11	1.46	1.29	1.49	2.53	1.49	1.29	1.46	1.11	0.83	0.83

Table--2

UNIT: cd

C (DEG) γ (DEG)	285	300	315	330	345														
0	271	272	272	271	271														
5	271	271	271	270	270														
10	269	269	268	267	267														
15	266	265	263	261	260														
20	262	260	256	253	251														
25	255	253	248	243	240														
30	248	244	237	231	227														
35	240	235	226	218	211														
40	232	225	214	203	194														
45	223	214	200	187	177														
50	213	203	187	171	158														
55	202	191	174	155	139														
60	191	179	160	139	120														
65	179	166	146	123	100														
70	168	154	132	107	80.5														
75	155	141	119	91.6	62.6														
80	143	129	106	77.7	46.5														
85	131	117	94.3	65.5	33.1														
90	119	105	82.6	54.1	23.2														
95	107	93.3	72.1	45.0	16.3														
100	95.2	82.4	61.9	36.1	10.6														
105	83.1	71.0	51.4	28.1	5.59														
110	70.6	59.4	41.3	20.3	2.51														
115	58.5	48.2	31.9	13.1	2.26														
120	46.8	37.4	23.0	6.68	2.17														
125	35.6	27.4	14.7	2.40	2.07														
130	25.2	17.8	7.08	2.06	2.04														
135	15.2	8.90	2.03	1.91	2.01														
140	5.92	2.05	1.47	1.86	1.98														
145	1.25	1.31	1.29	1.69	1.96														
150	0.92	1.16	1.11	1.57	1.89														
155	0.78	1.04	1.02	1.48	1.70														
160	0.64	1.12	0.94	1.37	1.58														
165	0.68	1.15	1.01	1.35	1.55														
170	0.73	1.18	1.14	1.32	1.52														
175	0.83	1.11	1.05	1.30	1.50														
180	0.83	1.11	1.46	1.29	1.49														

## 4.0 LM-79 Measurement and Test Results

### 4.3 THD and PF Test

<b>Model No.</b>	STRP2 @8W4000K	<b>Sample ID</b>	241225003-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	0.063	7.5	0.989	5.84
277.0	60	0.033	8.0	0.882	17.19

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