

## 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		582
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Standard	Premium	141.9
			115	130	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		8.2
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)		ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	5.89
				277V	16.73
Power Factor (THD & PF – Section 4.3)		ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.991
				277V	0.885
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)		ANSI/IES LM-79:2019	7 steps	3465±245	3444
			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		10
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		94
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%		55.7%
Discomfort Glare (UGR) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Standard	Premium	29.2
			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		0.064
Power (Input Wattage – W)					
(Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		8.2
(Goniophotometer – Section 4.2)			Non-Worst Case		7.6

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-02	STRP2 @8W3500K	-	241225003-S1
2	Goniophotometer Test	2025-01-02	STRP2 @8W3500K	-	241225003-S1
3	THD and PF Test	2025-01-02	STRP2 @8W3500K	-	241225003-S1

### Remark (If any):

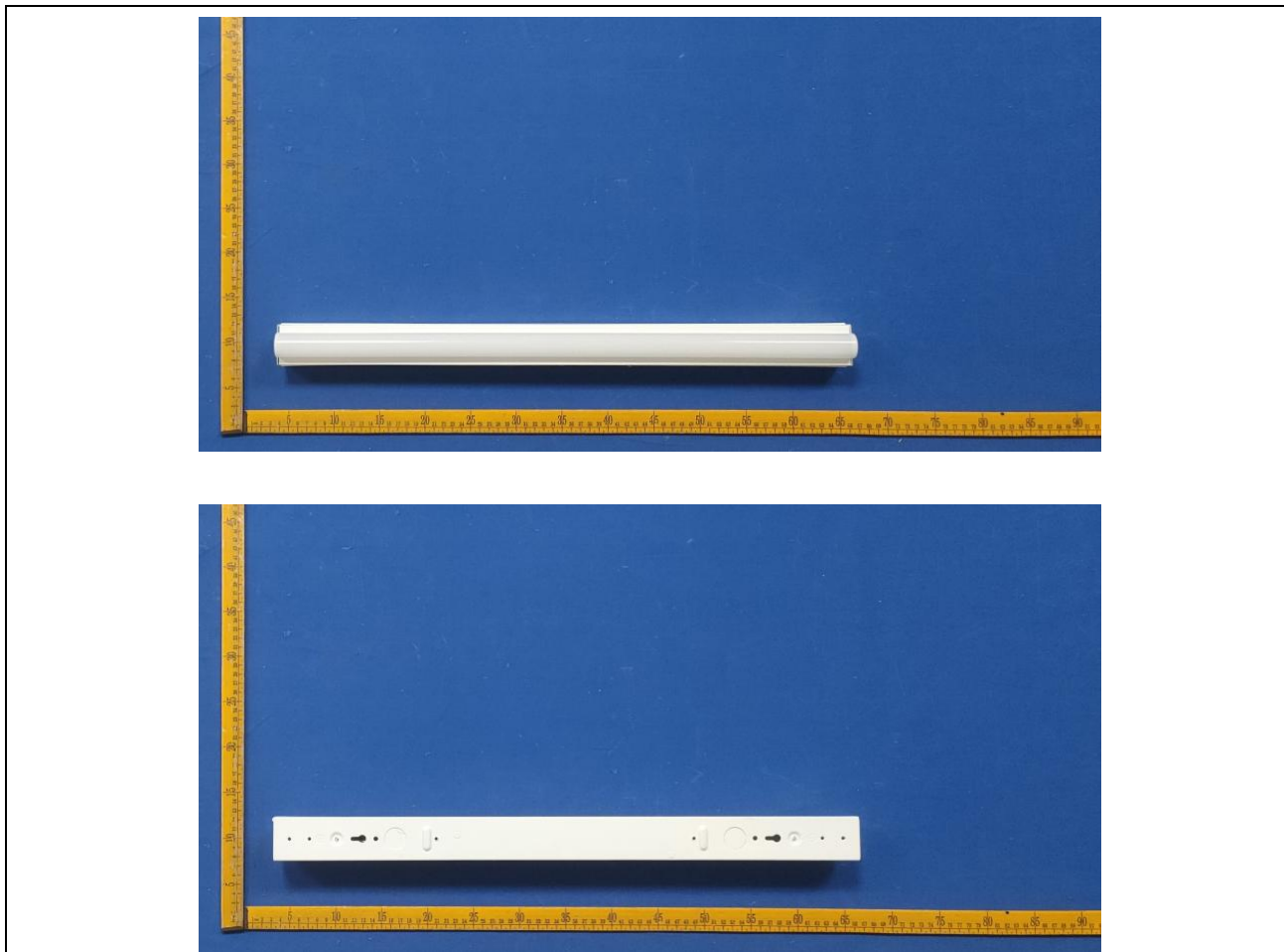
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3. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. Government.

### 3.0 Product Description

Luminaire Description: Model No. STRP2 @8W3500K, 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 @8W3500K	<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

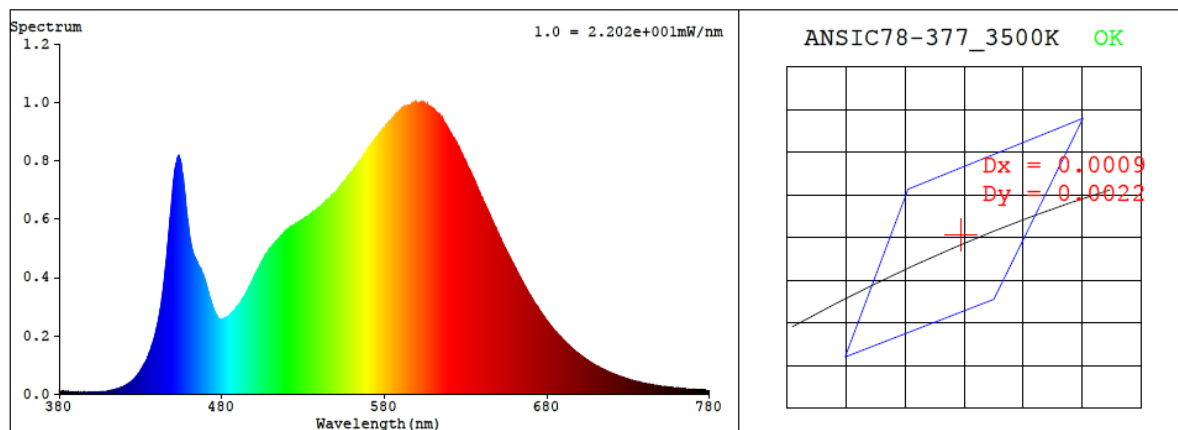
<b>Test Method</b>
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were 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	0.064	7.6	0.991
277.0	60	0.033	8.2	0.885

<b>CCT (K)</b>	<b>CRI</b>	<b>R9</b>	<b>Duv</b>	<b>Rf</b>	<b>Rg</b>	<b>IES Rcs,h1</b>
3444	83.8	10	0.0008	85	94	-12%

## 4.1 Integrating Sphere Test



### Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.4094$   $y = 0.3945$  /  $u' = 0.2368$   $v' = 0.5134$  ( $duv=7.84e-04$ )

CCT= 3444K Prcp WL:  $L_d=580.8nm$  Purity=41.3%

Peak WL:  $L_p=599nm$  FWHM:  $=144.5nm$  Ratio:R=20.6% G=76.2% B=3.2%

Render Index:  $R_a = 83.8$  AvgR = 77.9 TM30:Rf=85 Rg=95

EEL: 0.09434 A++ Highest

R1=82 R2=92 R3=97 R4=82 R5=82 R6=89 R7=84

R8=62 R9=10 R10=80 R11=81 R12=67 R13=85 R14=99 R15=75

## 4.1 Integrating Sphere Test

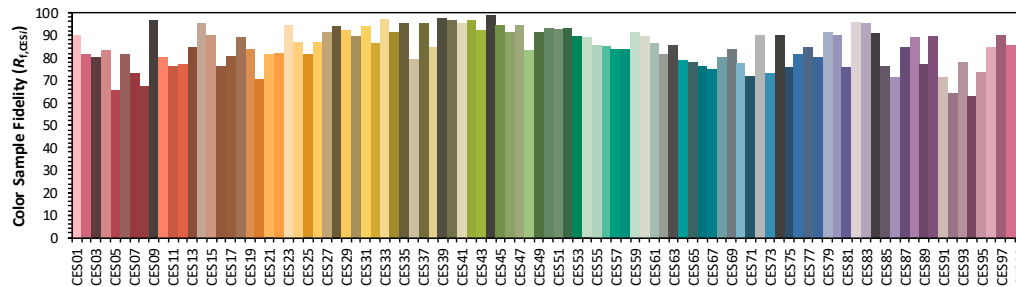
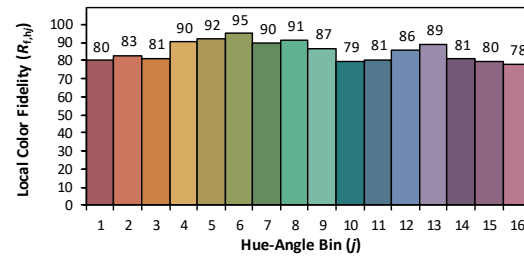
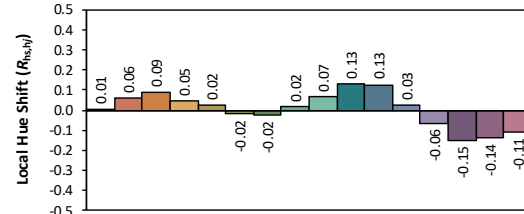
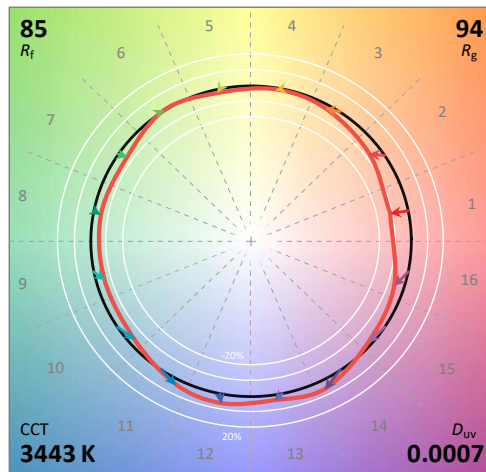
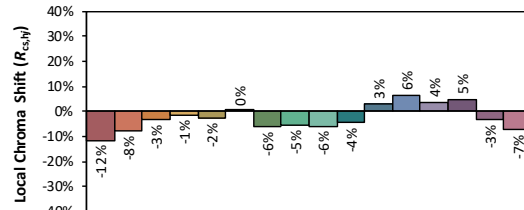
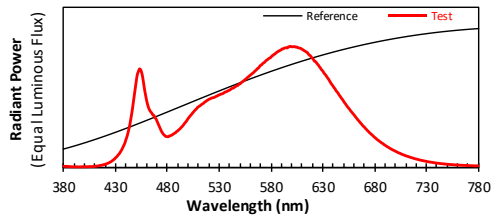
### ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/4

Model: STRP2 @8W3500K



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

$x$  0.4094  
 $y$  0.3944  
 $u'$  0.2368  
 $v'$  0.5134

CIE 13.3-1995  
(CRI)  
 $R_a$  84  
 $R_g$  10

## 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	1.17E-05	447	5.33E-04	514	5.26E-04	581	9.21E-04	648	5.74E-04	715	8.42E-05
381	9.60E-06	448	5.95E-04	515	5.31E-04	582	9.25E-04	649	5.63E-04	716	8.17E-05
382	1.11E-05	449	6.57E-04	516	5.40E-04	583	9.34E-04	650	5.50E-04	717	7.89E-05
383	9.60E-06	450	7.18E-04	517	5.45E-04	584	9.37E-04	651	5.37E-04	718	7.61E-05
384	9.10E-06	451	7.69E-04	518	5.52E-04	585	9.47E-04	652	5.26E-04	719	7.36E-05
385	8.90E-06	452	7.92E-04	519	5.57E-04	586	9.52E-04	653	5.13E-04	720	7.13E-05
386	7.60E-06	453	8.13E-04	520	5.63E-04	587	9.58E-04	654	5.02E-04	721	6.91E-05
387	7.20E-06	454	8.08E-04	521	5.67E-04	588	9.63E-04	655	4.91E-04	722	6.72E-05
388	6.80E-06	455	7.88E-04	522	5.70E-04	589	9.68E-04	656	4.81E-04	723	6.45E-05
389	6.20E-06	456	7.50E-04	523	5.75E-04	590	9.72E-04	657	4.68E-04	724	6.23E-05
390	6.60E-06	457	6.97E-04	524	5.76E-04	591	9.79E-04	658	4.58E-04	725	6.07E-05
391	6.40E-06	458	6.41E-04	525	5.78E-04	592	9.80E-04	659	4.48E-04	726	5.86E-05
392	6.30E-06	459	5.95E-04	526	5.82E-04	593	9.86E-04	660	4.38E-04	727	5.71E-05
393	7.00E-06	460	5.51E-04	527	5.87E-04	594	9.87E-04	661	4.27E-04	728	5.50E-05
394	6.20E-06	461	5.17E-04	528	5.90E-04	595	9.88E-04	662	4.15E-04	729	5.35E-05
395	6.10E-06	462	4.90E-04	529	5.96E-04	596	9.87E-04	663	4.05E-04	730	5.15E-05
396	6.30E-06	463	4.72E-04	530	5.99E-04	597	9.96E-04	664	3.93E-04	731	4.97E-05
397	6.30E-06	464	4.59E-04	531	6.04E-04	598	9.96E-04	665	3.85E-04	732	4.82E-05
398	6.90E-06	465	4.49E-04	532	6.06E-04	599	1.00E-03	666	3.73E-04	733	4.62E-05
399	7.40E-06	466	4.34E-04	533	6.09E-04	600	9.97E-04	667	3.64E-04	734	4.54E-05
400	6.80E-06	467	4.30E-04	534	6.13E-04	601	9.96E-04	668	3.54E-04	735	4.39E-05
401	7.30E-06	468	4.13E-04	535	6.19E-04	602	9.97E-04	669	3.43E-04	736	4.29E-05
402	7.00E-06	469	4.01E-04	536	6.24E-04	603	9.97E-04	670	3.36E-04	737	4.11E-05
403	7.30E-06	470	3.83E-04	537	6.26E-04	604	9.93E-04	671	3.26E-04	738	3.98E-05
404	7.90E-06	471	3.62E-04	538	6.31E-04	605	9.94E-04	672	3.17E-04	739	3.84E-05
405	8.40E-06	472	3.43E-04	539	6.35E-04	606	9.89E-04	673	3.08E-04	740	3.72E-05
406	8.20E-06	473	3.24E-04	540	6.39E-04	607	9.87E-04	674	3.00E-04	741	3.63E-05
407	8.70E-06	474	3.04E-04	541	6.44E-04	608	9.85E-04	675	2.90E-04	742	3.55E-05
408	9.10E-06	475	2.89E-04	542	6.52E-04	609	9.82E-04	676	2.83E-04	743	3.40E-05
409	9.20E-06	476	2.76E-04	543	6.54E-04	610	9.76E-04	677	2.75E-04	744	3.30E-05
410	1.07E-05	477	2.69E-04	544	6.57E-04	611	9.71E-04	678	2.67E-04	745	3.23E-05
411	1.22E-05	478	2.59E-04	545	6.65E-04	612	9.65E-04	679	2.59E-04	746	3.12E-05
412	1.28E-05	479	2.56E-04	546	6.69E-04	613	9.60E-04	680	2.51E-04	747	3.06E-05
413	1.41E-05	480	2.55E-04	547	6.75E-04	614	9.54E-04	681	2.44E-04	748	2.97E-05
414	1.50E-05	481	2.55E-04	548	6.78E-04	615	9.50E-04	682	2.36E-04	749	2.85E-05
415	1.79E-05	482	2.62E-04	549	6.86E-04	616	9.39E-04	683	2.29E-04	750	2.78E-05
416	1.89E-05	483	2.63E-04	550	6.91E-04	617	9.29E-04	684	2.23E-04	751	2.73E-05
417	2.05E-05	484	2.67E-04	551	6.97E-04	618	9.23E-04	685	2.16E-04	752	2.66E-05
418	2.34E-05	485	2.73E-04	552	7.06E-04	619	9.12E-04	686	2.10E-04	753	2.57E-05
419	2.50E-05	486	2.78E-04	553	7.10E-04	620	9.02E-04	687	2.03E-04	754	2.49E-05
420	2.77E-05	487	2.84E-04	554	7.18E-04	621	8.93E-04	688	1.99E-04	755	2.43E-05
421	3.09E-05	488	2.89E-04	555	7.26E-04	622	8.78E-04	689	1.92E-04	756	2.39E-05
422	3.39E-05	489	2.98E-04	556	7.31E-04	623	8.75E-04	690	1.86E-04	757	2.29E-05
423	3.74E-05	490	3.03E-04	557	7.41E-04	624	8.64E-04	691	1.80E-04	758	2.22E-05
424	4.20E-05	491	3.12E-04	558	7.46E-04	625	8.53E-04	692	1.74E-04	759	2.22E-05
425	4.61E-05	492	3.18E-04	559	7.55E-04	626	8.43E-04	693	1.69E-04	760	2.15E-05
426	5.18E-05	493	3.28E-04	560	7.61E-04	627	8.30E-04	694	1.65E-04	761	2.10E-05
427	5.83E-05	494	3.37E-04	561	7.69E-04	628	8.19E-04	695	1.59E-04	762	2.04E-05
428	6.47E-05	495	3.46E-04	562	7.76E-04	629	8.06E-04	696	1.54E-04	763	1.99E-05
429	7.18E-05	496	3.58E-04	563	7.82E-04	630	7.98E-04	697	1.49E-04	764	1.96E-05
430	8.13E-05	497	3.69E-04	564	7.91E-04	631	7.83E-04	698	1.44E-04	765	1.93E-05
431	8.86E-05	498	3.79E-04	565	7.99E-04	632	7.72E-04	699	1.41E-04	766	1.86E-05
432	9.96E-05	499	3.91E-04	566	8.06E-04	633	7.62E-04	700	1.36E-04	767	1.80E-05
433	1.10E-04	500	4.05E-04	567	8.17E-04	634	7.49E-04	701	1.32E-04	768	1.81E-05
434	1.21E-04	501	4.15E-04	568	8.21E-04	635	7.37E-04	702	1.28E-04	769	1.75E-05
435	1.35E-04	502	4.26E-04	569	8.34E-04	636	7.25E-04	703	1.23E-04	770	1.71E-05
436	1.49E-04	503	4.35E-04	570	8.43E-04	637	7.10E-04	704	1.20E-04	771	1.64E-05
437	1.67E-04	504	4.47E-04	571	8.47E-04	638	6.96E-04	705	1.16E-04	772	1.60E-05
438	1.85E-04	505	4.57E-04	572	8.58E-04	639	6.84E-04	706	1.12E-04	773	1.61E-05
439	2.04E-04	506	4.67E-04	573	8.64E-04	640	6.72E-04	707	1.09E-04	774	1.56E-05
440	2.32E-04	507	4.76E-04	574	8.70E-04	641	6.59E-04	708	1.05E-04	775	1.53E-05
441	2.57E-04	508	4.84E-04	575	8.80E-04	642	6.48E-04	709	1.01E-04	776	1.48E-05
442	2.89E-04	509	4.95E-04	576	8.87E-04	643	6.33E-04	710	9.86E-05	777	1.44E-05
443	3.25E-04	510	5.01E-04	577	8.92E-04	644	6.23E-04	711	9.54E-05	778	1.46E-05
444	3.68E-04	511	5.08E-04	578	8.99E-04	645	6.12E-04	712	9.29E-05	779	1.47E-05
445	4.18E-04	512	5.13E-04	579	9.05E-04	646	5.98E-04	713	9.00E-05	780	1.47E-05
446	4.70E-04	513	5.21E-04	580	9.09E-04	647	5.87E-04	714	8.70E-05	N/A	N/A



## 4.0 LM-79 Measurement and Test Results

### 4.2 Goniophotometer Test

<b>Model No.</b>	STRP2 @8W3500K	<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	8.2	0.885
<b>NON-WORST CASE</b>	120.0	60	0.064	7.6	0.991

### Test Result

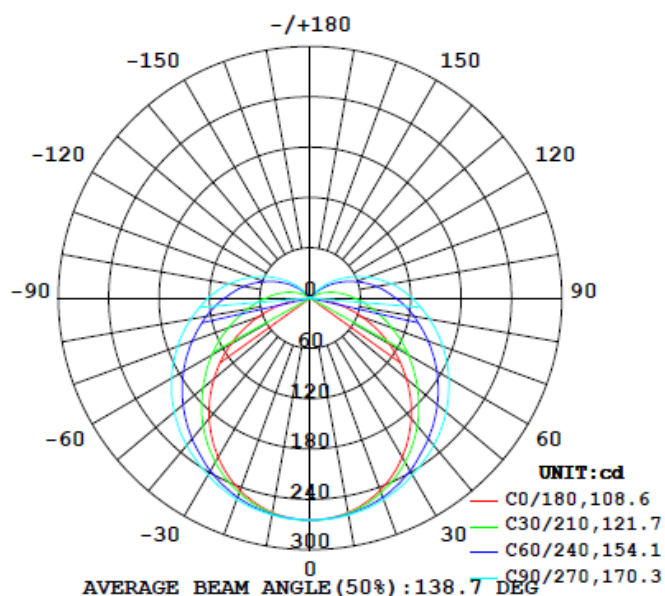
Flux (lm)	Flux per feet (lm/ft)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)
		C0-180	C90-270	C0-180	C90-270	
1164	582	160.7	160.7	108.5	170.2	141.9

Zonal Lumen Requirement (0°-60°)	UGR	
	Crosswise	Endwise
55.7%	21.1	29.2

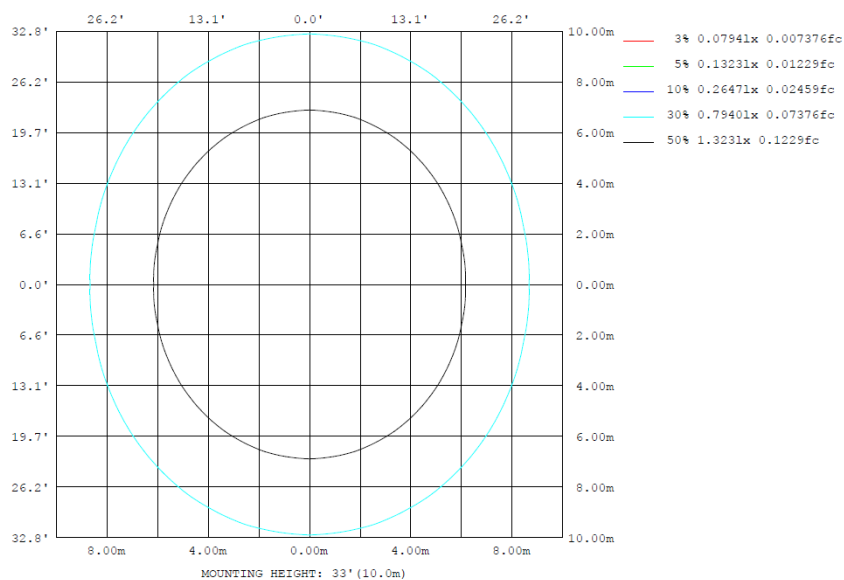
## 4.2 Goniophotometer Test

### Lighting Distribution Curve

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



### Isolux Plot



## 4.2 Goniophotometer Test

### Zonal Lumen Summary

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum, lamp
10	259.8	261.4	262.4	261.4	259.8	261.4	262.4	261.4	0- 10	25.11	25.11	2.16,2.16
20	244.0	250.3	255.5	250.3	244.0	250.3	255.5	250.3	10- 20	72.45	97.56	8.38,8.38
30	219.5	232.1	243.6	232.1	219.5	232.1	243.6	232.1	20- 30	111.5	209.0	18,18
40	187.2	208.6	229.2	208.6	187.2	208.6	229.2	208.6	30- 40	138.2	347.2	29.8,29.8
50	149.6	183.2	211.4	183.2	149.6	183.2	211.4	183.2	40- 50	151.1	498.3	42.8,42.8
60	108.7	156.0	190.8	156.0	108.7	156.0	190.8	156.0	50- 60	150.1	648.4	55.7,55.7
70	65.90	128.8	168.2	128.8	65.90	128.8	168.2	128.8	60- 70	137.1	785.4	67.5,67.5
80	26.02	103.4	144.6	103.4	26.02	103.4	144.6	103.4	70- 80	115.7	901.2	77.4,77.4
90	2.576	80.45	121.4	80.45	2.576	80.45	121.4	80.45	80- 90	91.50	992.7	85.3,85.3
100	1.798	60.59	98.42	60.59	1.798	60.59	98.42	60.59	90-100	69.57	1062	91.3,91.3
110	1.798	40.63	73.33	40.63	1.798	40.63	73.33	40.63	100-110	49.03	1111	95.5,95.5
120	1.798	22.62	48.87	22.62	1.798	22.62	48.87	22.62	110-120	30.20	1141	98.1,98.1
130	1.798	6.802	27.12	6.802	1.798	6.802	27.12	6.802	120-130	15.18	1157	99.4,99.4
140	1.798	1.540	7.505	1.540	1.798	1.540	7.505	1.540	130-140	5.209	1162	99.8,99.8
150	1.798	1.289	0.9268	1.289	1.798	1.289	0.9268	1.289	140-150	1.056	1163	99.9,99.9
160	1.798	1.115	0.8950	1.115	1.798	1.115	0.8950	1.115	150-160	0.5693	1163	100,100
170	1.987	1.115	0.8633	1.115	1.987	1.115	0.8633	1.115	160-170	0.3312	1164	100,100
180	2.176	1.115	0.8410	1.115	2.176	1.115	0.8410	1.115	170-180	0.1121	1164	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

	Zonal (lm)		Total (lm)	Percent
0-10	25.11	0-10	25.11	2.16%
10-20	72.45	0-20	97.56	8.38%
20-30	111.48	0-30	209.04	17.96%
30-40	138.20	0-40	347.24	29.84%
40-50	151.05	0-50	498.29	42.82%
50-60	150.07	0-60	648.36	55.71%
60-70	137.07	0-70	785.43	67.49%
70-80	115.72	0-80	901.15	77.43%
80-90	91.50	0-90	992.65	85.29%
90-100	69.57	0-100	1062.22	91.27%
100-110	49.03	0-110	1111.25	95.48%
110-120	30.20	0-120	1141.45	98.08%
120-130	15.18	0-130	1156.63	99.38%
130-140	5.21	0-140	1161.84	99.83%
140-150	1.06	0-150	1162.90	99.92%
150-160	0.57	0-160	1163.47	99.97%
160-170	0.33	0-170	1163.80	100.00%
170-180	0.11	0-180	1163.91	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	25.2	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	30.2
	12H	18.6	19.7	19.3	20.4	21.1	28.6	29.7	29.3	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	25.9	26.8	26.5	27.5	28.3
	6H	20.5	21.4	21.2	22.1	22.8	27.7	28.6	28.4	29.3	30.0
	8H	20.6	21.4	21.3	22.1	22.9	28.7	29.5	29.3	30.2	31.0
	12H	20.7	21.4	21.3	22.1	22.9	29.8	30.5	30.4	31.2	32.0
8H	4H	21.3	22.1	21.9	22.8	23.6	26.0	26.9	26.7	27.5	28.3
	6H	22.0	22.7	22.6	23.4	24.2	28.0	28.7	28.7	29.5	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	23.6	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	17.0	18.4	17.6	19.0	19.7	21.1	22.5	21.7	23.1	23.8
	3H	18.4	19.7	19.0	20.3	21.0	24.1	25.4	24.7	26.0	26.7
	4H	18.8	20.1	19.4	20.7	21.4	25.7	26.9	26.3	27.5	28.2
	6H	19.1	20.2	19.7	20.9	21.6	27.3	28.5	27.9	29.1	29.8
	8H	19.1	20.3	19.8	20.9	21.6	28.2	29.3	28.8	29.9	30.7
	12H	19.1	20.2	19.8	20.9	21.6	29.1	30.2	29.8	30.8	31.6
4H	2H	18.3	19.6	18.9	20.2	20.9	21.4	22.7	22.0	23.3	24.0
	3H	20.0	21.1	20.6	21.7	22.5	24.7	25.7	25.3	26.4	27.1
	4H	20.6	21.6	21.2	22.3	23.0	26.4	27.3	27.0	28.0	28.8
	6H	21.0	21.9	21.7	22.6	23.3	28.2	29.1	28.9	29.8	30.5
	8H	21.1	21.9	21.8	22.6	23.4	29.2	30.0	29.8	30.7	31.5
	12H	21.2	21.9	21.8	22.6	23.4	30.3	31.0	30.9	31.7	32.5
8H	4H	21.8	22.6	22.4	23.3	24.1	26.5	27.4	27.2	28.0	28.8
	6H	22.5	23.2	23.1	23.9	24.7	28.5	29.2	29.2	30.0	30.7
	8H	22.7	23.3	23.4	24.0	24.8	29.6	30.3	30.3	31.0	31.8
	12H	22.8	23.4	23.5	24.1	25.0	30.9	31.5	31.6	32.2	33.0
12H	4H	22.2	22.9	22.8	23.6	24.4	26.5	27.3	27.2	28.0	28.8
	6H	23.0	23.6	23.7	24.3	25.2	28.6	29.2	29.3	29.9	30.7
	8H	23.3	23.9	24.1	24.6	25.5	29.7	30.3	30.4	31.0	31.9

Maximum UGR = 33.0

## 4.2 Goniophotometer Test

### Luminous Distribution Intensity Data

Table--1

UNIT: cd

C (DEG) y	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	264	265	265	265	264	265	265	265	264	265	265	264	265	265	265	265	264	265	265
5	264	264	264	264	264	264	264	264	264	264	264	264	264	264	264	264	264	264	264
10	260	260	261	261	261	262	262	261	261	261	260	260	260	260	261	261	261	262	262
15	253	254	255	257	258	259	260	259	258	257	255	254	253	254	255	257	258	259	260
20	244	245	247	250	253	255	255	255	253	250	247	245	244	245	247	250	253	255	255
25	233	234	237	242	246	249	250	249	246	242	237	234	233	234	237	242	246	249	250
30	219	221	226	232	238	242	244	242	238	232	226	221	219	221	226	232	238	242	244
35	204	206	213	221	228	235	237	235	228	221	213	206	204	206	213	221	228	235	237
40	187	190	199	209	219	226	229	226	219	209	199	190	187	190	199	209	219	226	229
45	169	173	183	196	209	218	221	218	209	196	183	173	169	173	183	196	209	218	221
50	150	155	167	183	198	208	211	208	198	183	167	155	150	155	167	183	198	208	211
55	130	136	151	170	186	197	201	197	186	170	151	136	130	136	151	170	186	197	201
60	109	117	135	156	174	186	191	186	174	156	135	117	109	117	135	156	174	186	191
65	87.4	97.3	120	142	162	175	179	175	162	142	120	97.3	87.4	97.3	120	142	162	175	179
70	65.9	78.4	104	129	150	164	168	164	150	129	104	78.4	65.9	78.4	104	129	150	164	168
75	44.9	61.2	89.2	116	137	152	156	152	137	116	89.2	61.2	44.9	61.2	89.2	116	137	152	156
80	26.0	45.5	75.7	103	126	140	145	140	126	103	75.7	45.5	26.0	45.5	75.7	103	126	140	145
85	10.5	32.6	63.9	91.9	114	128	133	128	114	91.9	63.9	32.6	10.5	32.6	63.9	91.9	114	128	133
90	2.58	22.8	52.9	80.4	102	116	121	116	102	80.4	52.9	22.8	2.58	22.8	52.9	80.4	102	116	121
95	1.87	16.0	44.1	70.4	91.0	105	110	105	91.0	70.4	44.1	16.0	1.87	16.0	44.1	70.4	91.0	105	110
100	1.80	10.2	35.4	60.6	80.3	92.8	98.4	92.8	80.3	60.6	35.4	10.2	1.80	10.2	35.4	60.6	80.3	92.8	98.4
105	1.80	5.37	27.5	50.4	69.1	81.1	85.9	81.1	69.1	50.4	27.5	5.37	1.80	5.37	27.5	50.4	69.1	81.1	85.9
110	1.80	2.26	19.9	40.6	57.8	68.9	73.3	68.9	57.8	40.6	19.9	2.26	1.80	2.26	19.9	40.6	57.8	68.9	73.3
115	1.80	2.02	12.8	31.4	47.1	57.0	60.9	57.0	47.1	31.4	12.8	2.02	1.80	2.02	12.8	31.4	47.1	57.0	60.9
120	1.80	1.91	6.46	22.6	36.4	45.8	48.9	45.8	36.4	22.6	6.46	1.91	1.80	1.91	6.46	22.6	36.4	45.8	48.9
125	1.80	1.87	2.25	14.2	26.7	34.8	37.6	34.8	26.7	14.2	2.25	1.87	1.80	1.87	2.25	14.2	26.7	34.8	37.6
130	1.80	1.83	1.91	6.80	17.3	24.6	27.1	24.6	17.3	6.80	1.91	1.83	1.80	1.83	1.91	6.80	17.3	24.6	27.1
135	1.80	1.80	1.73	1.87	8.69	14.8	17.0	14.8	8.69	1.87	1.73	1.80	1.80	1.80	1.73	1.87	8.69	14.8	17.0
140	1.80	1.76	1.59	1.54	2.06	5.90	7.51	5.90	2.06	1.54	1.59	1.76	1.80	1.76	1.59	1.54	2.06	5.90	7.51
145	1.80	1.73	1.53	1.34	1.28	1.03	1.23	1.03	1.28	1.34	1.53	1.73	1.80	1.73	1.53	1.34	1.28	1.03	1.23
150	1.80	1.70	1.53	1.29	1.21	0.75	0.93	0.75	1.21	1.29	1.53	1.70	1.80	1.70	1.53	1.29	1.21	0.75	0.93
155	1.80	1.60	1.30	1.16	1.03	0.77	0.91	0.77	1.03	1.16	1.30	1.60	1.80	1.60	1.30	1.16	1.03	0.77	0.91
160	1.80	1.50	1.29	1.11	0.99	0.78	0.90	0.78	0.99	1.11	1.29	1.50	1.80	1.50	1.29	1.11	0.99	0.78	0.90
165	1.89	1.47	1.27	1.11	0.97	0.80	0.88	0.80	0.97	1.11	1.27	1.47	1.89	1.47	1.27	1.11	0.97	0.80	0.88
170	1.99	1.45	1.24	1.11	0.95	0.82	0.86	0.82	0.95	1.11	1.24	1.45	1.99	1.45	1.24	1.11	0.95	0.82	0.86
175	2.18	1.42	1.22	1.11	0.94	0.93	0.85	0.93	0.94	1.11	1.22	1.42	2.18	1.42	1.22	1.11	0.94	0.93	0.85
180	2.18	1.41	1.21	1.11	0.93	1.20	0.84	1.20	0.93	1.11	1.21	1.41	2.18	1.41	1.21	1.11	0.93	1.20	0.84

Table--2

UNIT: cd

C (DEG) y	285	300	315	330	345														
0	265	264	265	265	265														
5	264	264	264	264	264														
10	262	261	261	261	260														
15	259	258	257	255	254														
20	255	253	250	247	245														
25	249	246	242	237	234														
30	242	238	232	226	221														
35	235	228	221	213	206														
40	226	219	209	199	190														
45	218	209	196	183	173														
50	208	198	183	167	155														
55	197	186	170	151	136														
60	186	174	156	135	117														
65	175	162	142	120	97.3														
70	164	150	129	104	78.4														
75	152	137	116	89.2	61.2														
80	140	126	103	75.7	45.5														
85	128	114	91.9	63.9	32.6														
90	116	102	80.4	52.9	22.8														
95	105	91.0	70.4	44.1	16.0														
100	92.8	80.3	60.6	35.4	10.2														
105	81.1	69.1	50.4	27.5	5.37														
110	68.9	57.8	40.6	19.9	2.26														
115	57.0	47.1	31.4	12.8	2.02														
120	45.8	36.4	22.6	6.46	1.91														
125	34.8	26.7	14.2	2.25	1.87														
130	24.6	17.3	6.80	1.91	1.83														
135	14.8	8.69	1.87	1.73	1.80														
140	5.90	2.06	1.54	1.59	1.76														
145	1.03	1.28	1.34	1.53	1.73														
150	0.75	1.21	1.29	1.53	1.70														
155	0.77	1.03	1.16	1.30	1.60														
160	0.78	0.99	1.11	1.29	1.50														
165	0.80	0.97	1.11	1.27	1.47														
170	0.82	0.95	1.11	1.24	1.45														
175	0.93	0.94	1.11	1.22	1.42														
180	1.20	0.93	1.11	1.21	1.41														

## 4.0 LM-79 Measurement and Test Results

### 4.3 THD and PF Test

<b>Model No.</b>	STRP2 @8W3500K	<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	0.064	7.6	0.991	5.89
277.0	60	0.033	8.2	0.885	16.73

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