

## 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: 2024-12-30

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		1398
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Standard	Premium	146.8
			115	130	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		38.1
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)		ANSI C82.77:2002	20.00%	120V	9.58
		ANSI C82-77-10:2020		277V	6.43
Power Factor (THD & PF – Section 4.3)		ANSI C82.77:2002	0.9	120V	0.994
		ANSI C82-77-10:2020		277V	0.956
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)		ANSI/IES LM-79:2019	7 steps	3465±245	3445
			4 steps	3465±124	
Minimum CRI (Integrating Sphere – Section 4.1)		ANSI/IES LM-79:2019 CIE13.3-1995	≥80		83.7
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		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%		63.4%
Discomfort Glare (UGR) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Standard	Premium	29.1
			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		0.319
(Goniophotometer – Section 4.2)			Non-Worst Case		0.139
Power (Input Wattage – W)					
(Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		38.1
(Goniophotometer – Section 4.2)			Non-Worst Case		36.8

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2024-12-26	STRP4H @40W3500K	-	241225006-S1
2	Goniophotometer Test	2024-12-26	STRP4H @40W3500K	-	241225006-S1
3	THD and PF Test	2024-12-26	STRP4H @40W3500K	-	241225006-S1

### Remark (If any):

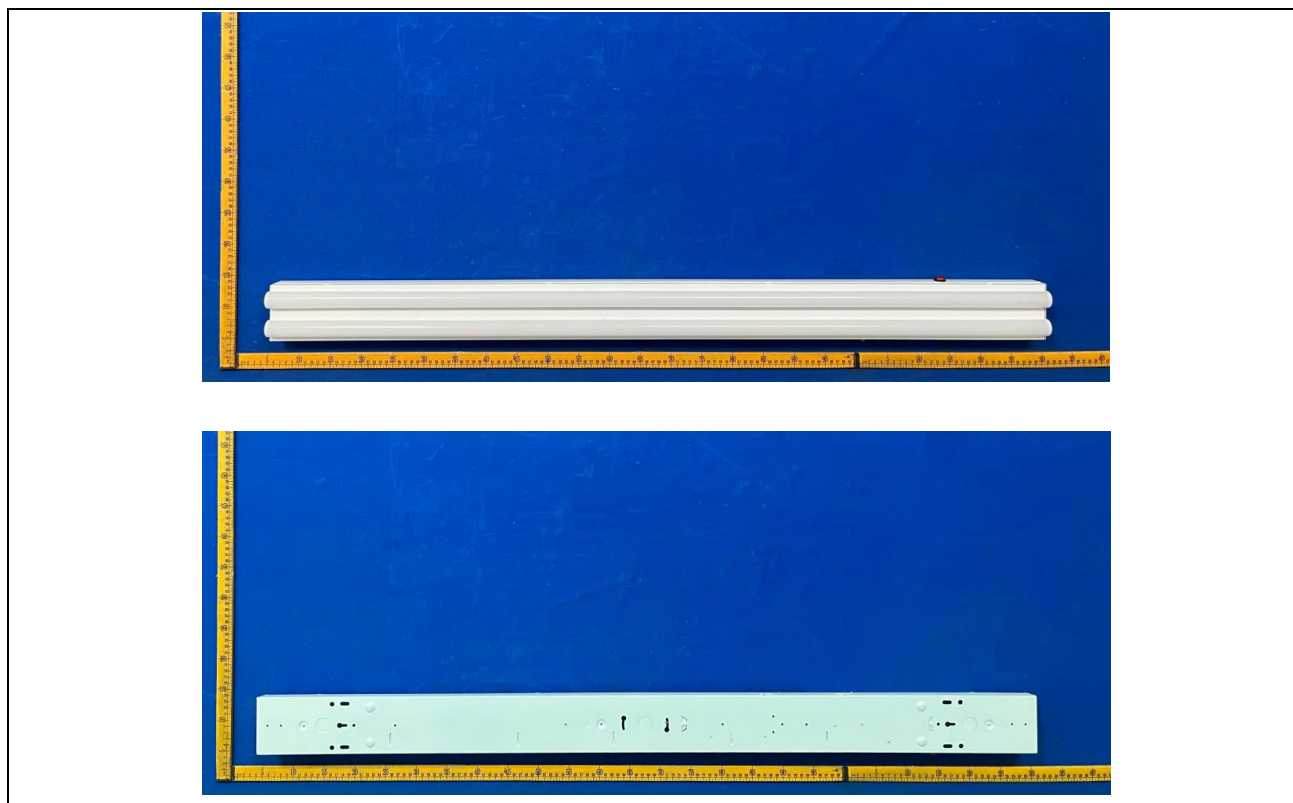
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2. This report shall not be reproduced, no limited part or full, without approval of Dongguan New Testing Centre Co., Ltd.
3. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any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

### 3.0 Product Description

Luminaire Description: Model No. STRP4H @40W3500K, 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>	STRP4H @40W3500K	<b>Sample ID</b>	241225006-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

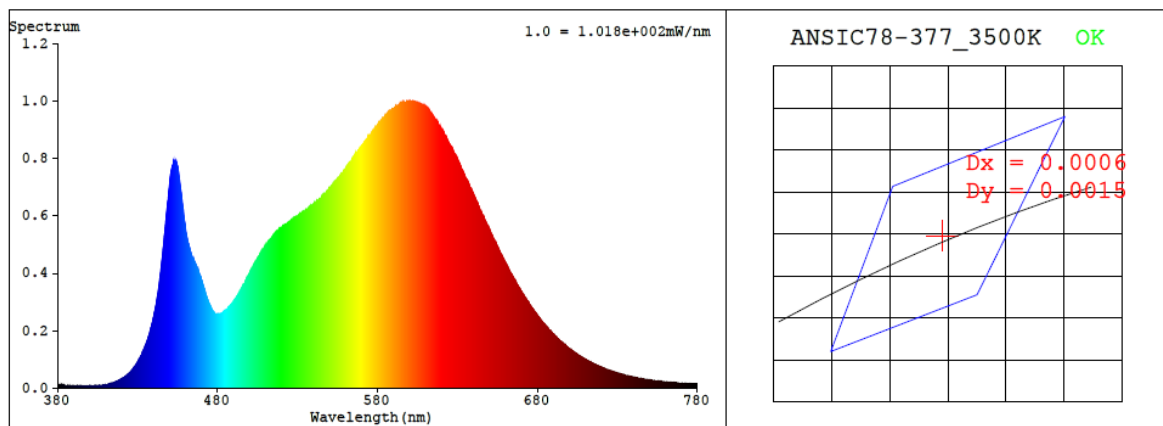
<b>Test Method</b>
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were 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	0.319	38.1	0.994
277.0	60	0.139	36.8	0.956

<b>CCT (K)</b>	<b>CRI</b>	<b>R9</b>	<b>Duv</b>	<b>Rf</b>	<b>Rg</b>	<b>IES Rcs,h1</b>
3445	83.7	10	0.0005	85	95	-12%

#### 4.1 Integrating Sphere Test



#### Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.4090$   $y = 0.3938$  /  $u' = 0.2369$   $v' = 0.5131$  ( $duv=5.37e-04$ )

CCT= 3445K Prcp WL:  $L_d=580.8nm$  Purity=41.0%

Peak WL:  $L_p=600nm$  FWHM:  $=144.1nm$  Ratio:R=20.6% G=76.2% B=3.2%

Render Index:  $R_a = 83.7$  AvgR = 77.7 TM30:Rf=85 Rg=95

EEL: 0.09614 A++ Highest

R1 =82 R2 =91 R3 =96 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

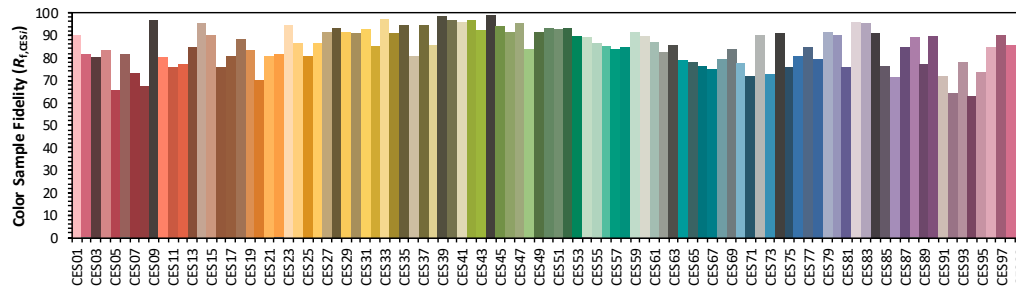
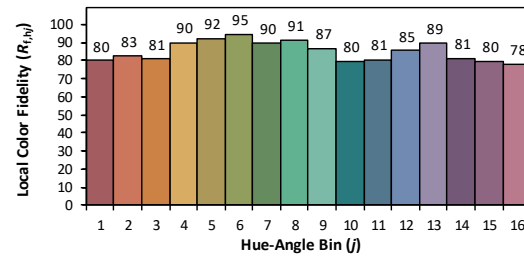
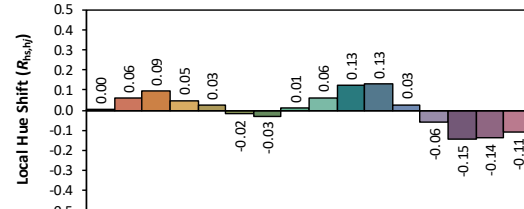
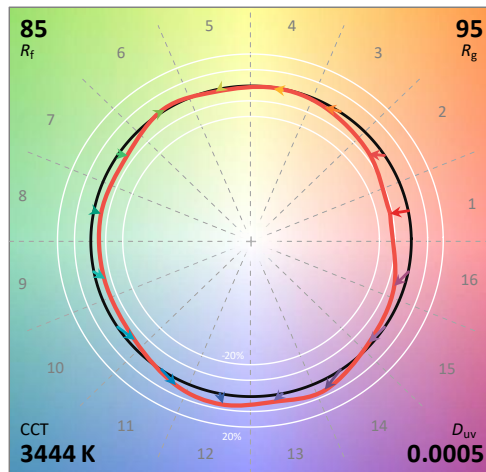
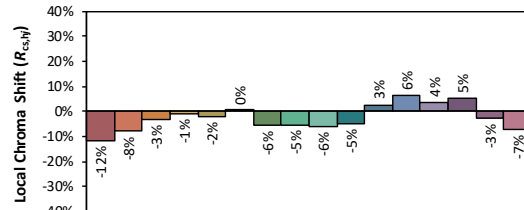
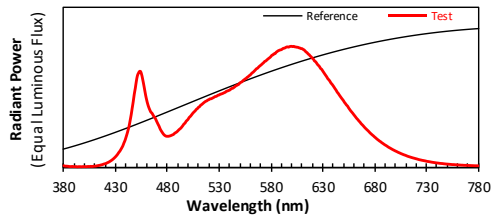
### ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2024/12/30

Model: STRP4H @40W3500K



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

$x$  0.4090  
 $y$  0.3937  
 $u'$  0.2369  
 $v'$  0.5130

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	1.58E-05	447	5.44E-04	514	5.26E-04	581	9.26E-04	648	5.75E-04	715	8.54E-05
381	1.18E-05	448	6.05E-04	515	5.34E-04	582	9.29E-04	649	5.63E-04	716	8.27E-05
382	1.19E-05	449	6.55E-04	516	5.40E-04	583	9.39E-04	650	5.52E-04	717	8.01E-05
383	1.11E-05	450	7.12E-04	517	5.46E-04	584	9.39E-04	651	5.38E-04	718	7.78E-05
384	1.06E-05	451	7.56E-04	518	5.50E-04	585	9.50E-04	652	5.28E-04	719	7.55E-05
385	8.80E-06	452	7.77E-04	519	5.57E-04	586	9.57E-04	653	5.16E-04	720	7.31E-05
386	8.50E-06	453	7.92E-04	520	5.59E-04	587	9.63E-04	654	5.07E-04	721	7.09E-05
387	7.90E-06	454	7.93E-04	521	5.66E-04	588	9.67E-04	655	4.93E-04	722	6.82E-05
388	9.30E-06	455	7.71E-04	522	5.67E-04	589	9.70E-04	656	4.80E-04	723	6.57E-05
389	7.90E-06	456	7.33E-04	523	5.70E-04	590	9.72E-04	657	4.69E-04	724	6.37E-05
390	7.80E-06	457	6.89E-04	524	5.75E-04	591	9.77E-04	658	4.58E-04	725	6.20E-05
391	7.60E-06	458	6.43E-04	525	5.79E-04	592	9.83E-04	659	4.48E-04	726	5.98E-05
392	7.90E-06	459	5.96E-04	526	5.85E-04	593	9.84E-04	660	4.37E-04	727	5.83E-05
393	5.80E-06	460	5.57E-04	527	5.87E-04	594	9.89E-04	661	4.26E-04	728	5.66E-05
394	7.20E-06	461	5.23E-04	528	5.91E-04	595	9.93E-04	662	4.15E-04	729	5.49E-05
395	7.40E-06	462	4.97E-04	529	5.97E-04	596	9.95E-04	663	4.04E-04	730	5.27E-05
396	7.40E-06	463	4.76E-04	530	5.99E-04	597	9.93E-04	664	3.95E-04	731	5.09E-05
397	6.50E-06	464	4.58E-04	531	6.05E-04	598	9.97E-04	665	3.84E-04	732	4.96E-05
398	7.70E-06	465	4.50E-04	532	6.07E-04	599	9.99E-04	666	3.75E-04	733	4.82E-05
399	7.30E-06	466	4.35E-04	533	6.10E-04	600	9.99E-04	667	3.64E-04	734	4.67E-05
400	8.30E-06	467	4.21E-04	534	6.13E-04	601	9.97E-04	668	3.55E-04	735	4.49E-05
401	7.10E-06	468	4.11E-04	535	6.18E-04	602	9.99E-04	669	3.46E-04	736	4.35E-05
402	7.80E-06	469	3.93E-04	536	6.21E-04	603	9.96E-04	670	3.36E-04	737	4.22E-05
403	8.60E-06	470	3.75E-04	537	6.29E-04	604	9.94E-04	671	3.27E-04	738	4.09E-05
404	9.00E-06	471	3.57E-04	538	6.31E-04	605	9.92E-04	672	3.18E-04	739	3.96E-05
405	8.70E-06	472	3.40E-04	539	6.35E-04	606	9.92E-04	673	3.10E-04	740	3.83E-05
406	1.00E-05	473	3.19E-04	540	6.38E-04	607	9.88E-04	674	3.02E-04	741	3.74E-05
407	9.00E-06	474	3.04E-04	541	6.45E-04	608	9.86E-04	675	2.93E-04	742	3.62E-05
408	9.90E-06	475	2.90E-04	542	6.52E-04	609	9.81E-04	676	2.84E-04	743	3.50E-05
409	1.08E-05	476	2.78E-04	543	6.53E-04	610	9.81E-04	677	2.76E-04	744	3.40E-05
410	1.18E-05	477	2.68E-04	544	6.59E-04	611	9.75E-04	678	2.68E-04	745	3.34E-05
411	1.23E-05	478	2.62E-04	545	6.65E-04	612	9.70E-04	679	2.62E-04	746	3.26E-05
412	1.47E-05	479	2.58E-04	546	6.73E-04	613	9.62E-04	680	2.53E-04	747	3.13E-05
413	1.60E-05	480	2.58E-04	547	6.77E-04	614	9.53E-04	681	2.46E-04	748	3.05E-05
414	1.79E-05	481	2.58E-04	548	6.82E-04	615	9.47E-04	682	2.39E-04	749	2.94E-05
415	1.92E-05	482	2.60E-04	549	6.87E-04	616	9.36E-04	683	2.31E-04	750	2.87E-05
416	2.20E-05	483	2.62E-04	550	6.97E-04	617	9.30E-04	684	2.25E-04	751	2.81E-05
417	2.37E-05	484	2.66E-04	551	7.03E-04	618	9.19E-04	685	2.18E-04	752	2.73E-05
418	2.71E-05	485	2.70E-04	552	7.07E-04	619	9.12E-04	686	2.13E-04	753	2.65E-05
419	2.98E-05	486	2.74E-04	553	7.16E-04	620	9.01E-04	687	2.06E-04	754	2.57E-05
420	3.22E-05	487	2.83E-04	554	7.23E-04	621	8.95E-04	688	2.00E-04	755	2.48E-05
421	3.51E-05	488	2.88E-04	555	7.30E-04	622	8.80E-04	689	1.94E-04	756	2.45E-05
422	3.99E-05	489	2.94E-04	556	7.35E-04	623	8.74E-04	690	1.88E-04	757	2.43E-05
423	4.34E-05	490	3.02E-04	557	7.44E-04	624	8.63E-04	691	1.83E-04	758	2.33E-05
424	4.84E-05	491	3.11E-04	558	7.49E-04	625	8.50E-04	692	1.77E-04	759	2.28E-05
425	5.39E-05	492	3.18E-04	559	7.57E-04	626	8.41E-04	693	1.71E-04	760	2.22E-05
426	5.94E-05	493	3.25E-04	560	7.63E-04	627	8.31E-04	694	1.66E-04	761	2.15E-05
427	6.60E-05	494	3.36E-04	561	7.73E-04	628	8.17E-04	695	1.61E-04	762	2.11E-05
428	7.33E-05	495	3.47E-04	562	7.81E-04	629	8.10E-04	696	1.56E-04	763	2.07E-05
429	8.15E-05	496	3.60E-04	563	7.88E-04	630	7.97E-04	697	1.51E-04	764	1.99E-05
430	9.01E-05	497	3.66E-04	564	7.96E-04	631	7.84E-04	698	1.47E-04	765	1.99E-05
431	9.98E-05	498	3.81E-04	565	8.05E-04	632	7.71E-04	699	1.42E-04	766	1.90E-05
432	1.11E-04	499	3.89E-04	566	8.15E-04	633	7.59E-04	700	1.38E-04	767	1.86E-05
433	1.24E-04	500	3.98E-04	567	8.19E-04	634	7.47E-04	701	1.34E-04	768	1.85E-05
434	1.35E-04	501	4.12E-04	568	8.28E-04	635	7.32E-04	702	1.30E-04	769	1.79E-05
435	1.49E-04	502	4.20E-04	569	8.36E-04	636	7.23E-04	703	1.25E-04	770	1.78E-05
436	1.64E-04	503	4.30E-04	570	8.43E-04	637	7.11E-04	704	1.22E-04	771	1.71E-05
437	1.80E-04	504	4.42E-04	571	8.50E-04	638	6.97E-04	705	1.18E-04	772	1.69E-05
438	2.03E-04	505	4.52E-04	572	8.58E-04	639	6.87E-04	706	1.14E-04	773	1.66E-05
439	2.22E-04	506	4.61E-04	573	8.65E-04	640	6.76E-04	707	1.11E-04	774	1.60E-05
440	2.49E-04	507	4.69E-04	574	8.75E-04	641	6.63E-04	708	1.07E-04	775	1.59E-05
441	2.77E-04	508	4.81E-04	575	8.79E-04	642	6.50E-04	709	1.04E-04	776	1.53E-05
442	3.08E-04	509	4.86E-04	576	8.87E-04	643	6.38E-04	710	1.01E-04	777	1.51E-05
443	3.43E-04	510	4.97E-04	577	8.94E-04	644	6.22E-04	711	9.72E-05	778	1.48E-05
444	3.88E-04	511	5.02E-04	578	9.01E-04	645	6.12E-04	712	9.36E-05	779	1.48E-05
445	4.35E-04	512	5.13E-04	579	9.07E-04	646	5.99E-04	713	9.08E-05	780	1.48E-05
446	4.90E-04	513	5.19E-04	580	9.16E-04	647	5.87E-04	714	8.80E-05	N/A	N/A



## 4.0 LM-79 Measurement and Test Results

### 4.2 Goniophotometer Test

<b>Model No.</b>	STRP4H @40W3500K	<b>Sample ID</b>	241225006-S1
<b>Operate time (Min.)</b>	30	<b>Stabilization time (Min.)</b>	60
<b>Temperature (°C)</b>	25.0	<b>Humidity (%RH)</b>	42.1

<b>Test Method</b>
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using a type C goniophotometer and software.</p> <p>The ambient temperature shall be maintained at 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
<b>WORST CASE</b>	120.0	60	0.319	38.1	0.994
<b>NON-WORST CASE</b>	277.0	60	0.139	36.8	0.956

#### Test Result

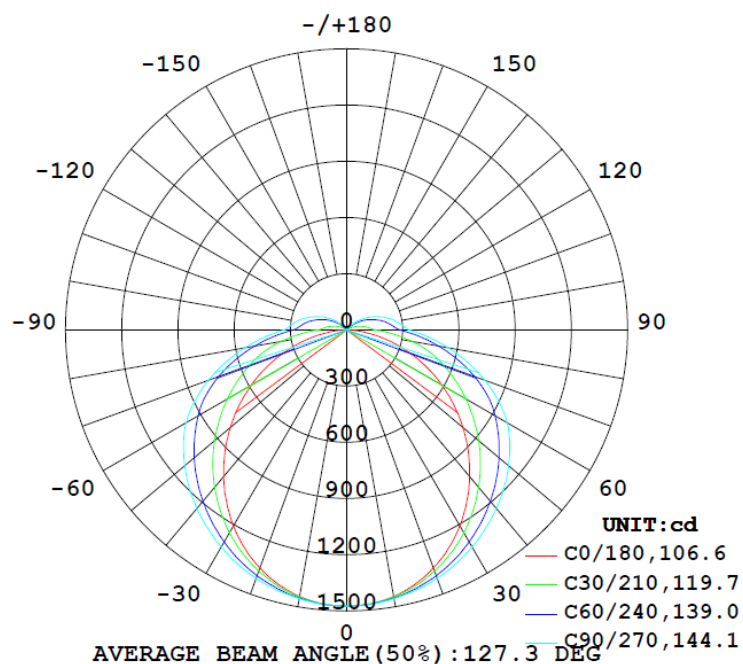
Flux (lm)	Flux per feet (lm/ft)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)
		C0-180	C90-270	C0-180	C90-270	
5592	1398	160.5	160.5	106.6	143.9	146.8

Zonal Lumen Requirement (0°-60°)	UGR	
	Crosswise	Endwise
63.4%	23.6	29.1

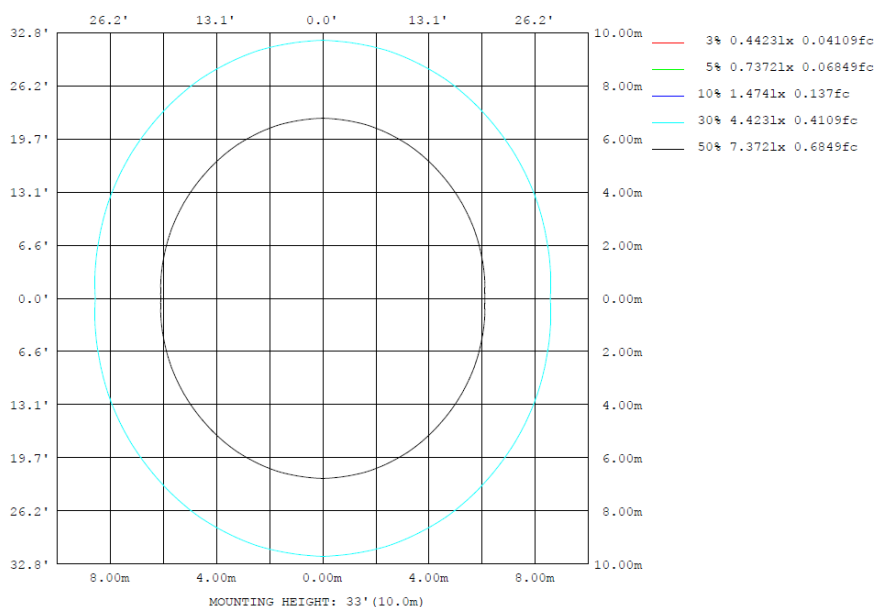
## 4.2 Goniophotometer Test

### 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	Φ zone	Φ total	%lum, lamp
10	1444	1449	1456	1449	1444	1449	1456	1449	0~ 10	139.5	139.5	2.49, 2.49
20	1352	1379	1411	1379	1352	1379	1411	1379	10~ 20	401.4	540.9	9.67, 9.67
30	1208	1276	1338	1276	1208	1276	1338	1276	20~ 30	615.3	1156	20.7, 20.7
40	1022	1141	1244	1141	1022	1141	1244	1141	30~ 40	758.9	1915	34.2, 34.2
50	810.6	989.7	1128	989.7	810.6	989.7	1128	989.7	40~ 50	822.2	2737	48.9, 48.9
60	587.0	827.9	988.8	827.9	587.0	827.9	988.8	827.9	50~ 60	805.4	3543	63.4, 63.4
70	358.6	653.9	784.8	653.9	358.6	653.9	784.8	653.9	60~ 70	711.2	4254	76.1, 76.1
80	143.5	434.9	551.6	434.9	143.5	434.9	551.6	434.9	70~ 80	539.2	4793	85.7, 85.7
90	9.124	225.7	333.1	225.7	9.124	225.7	333.1	225.7	80~ 90	326.1	5119	91.5, 91.5
100	6.820	167.4	268.7	167.4	6.820	167.4	268.7	167.4	90~100	190.9	5310	95, 95
110	8.276	113.7	203.8	113.7	8.276	113.7	203.8	113.7	100~110	136.3	5446	97.4, 97.4
120	8.550	61.63	135.3	61.63	8.550	61.63	135.3	61.63	110~120	84.32	5531	98.9, 98.9
130	8.279	15.92	71.73	15.92	8.279	15.92	71.73	15.92	120~130	41.59	5572	99.6, 99.6
140	8.095	3.843	16.07	3.843	8.095	3.843	16.07	3.843	130~140	13.55	5586	99.9, 99.9
150	7.913	3.206	2.063	3.206	7.913	3.206	2.063	3.206	140~150	3.113	5589	99.9, 99.9
160	6.549	2.838	2.062	2.838	6.549	2.838	2.062	2.838	150~160	1.773	5591	100, 100
170	8.458	3.386	2.624	3.386	8.458	3.386	2.624	3.386	160~170	1.088	5592	100, 100
180	8.550	4.211	3.468	4.211	8.550	4.211	3.468	4.211	170~180	0.4499	5592	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Zonal (lm)		Total (lm) Percent	
0-10	139.51	0-10	139.51 2.49%
10-20	401.40	0-20	540.91 9.67%
20-30	615.33	0-30	1156.24 20.68%
30-40	758.88	0-40	1915.12 34.25%
40-50	822.23	0-50	2737.35 48.95%
50-60	805.39	0-60	3542.74 63.36%
60-70	711.19	0-70	4253.93 76.07%
70-80	539.17	0-80	4793.10 85.72%
80-90	326.07	0-90	5119.17 91.55%
90-100	190.91	0-100	5310.08 94.96%
100-110	136.31	0-110	5446.39 97.40%
110-120	84.32	0-120	5530.71 98.91%
120-130	41.59	0-130	5572.30 99.65%
130-140	13.55	0-140	5585.85 99.89%
140-150	3.11	0-150	5588.96 99.95%
150-160	1.77	0-160	5590.73 99.98%
160-170	1.09	0-170	5591.82 100.00%
170-180	0.45	0-180	5592.27 100.01%

## 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	13.2	14.7	13.7	15.2	15.7	16.2	17.7	16.7	18.2	18.8
	3H	14.7	16.1	15.2	16.6	17.2	18.9	20.3	19.4	20.8	21.3
	4H	15.2	16.6	15.8	17.1	17.7	20.1	21.4	20.6	21.9	22.5
	6H	15.6	16.8	16.1	17.3	17.9	21.3	22.6	21.9	23.1	23.7
	8H	15.7	16.8	16.2	17.4	18.0	21.9	23.1	22.5	23.7	24.3
	12H	15.7	16.8	16.2	17.4	18.0	22.6	23.7	23.1	24.3	24.9
4H	2H	14.4	15.7	14.9	16.2	16.8	16.7	18.0	17.2	18.5	19.1
	3H	16.3	17.4	16.8	18.0	18.6	19.6	20.7	20.1	21.3	21.9
	4H	17.0	18.0	17.5	18.6	19.2	21.0	22.0	21.5	22.6	23.2
	6H	17.4	18.4	18.0	18.9	19.6	22.4	23.3	23.0	23.9	24.6
	8H	17.6	18.4	18.2	19.0	19.7	23.1	24.0	23.7	24.6	25.2
	12H	17.6	18.4	18.2	19.0	19.7	23.9	24.7	24.5	25.3	25.9
8H	4H	17.9	18.8	18.5	19.3	20.0	21.2	22.1	21.8	22.7	23.3
	6H	18.6	19.4	19.2	20.0	20.7	22.8	23.5	23.4	24.2	24.9
	8H	18.9	19.5	19.5	20.2	20.9	23.7	24.3	24.3	25.0	25.6
	12H	19.0	19.6	19.7	20.3	21.0	24.6	25.2	25.2	25.8	26.6
12H	4H	18.1	18.9	18.7	19.5	20.2	21.2	22.0	21.9	22.6	23.3
	6H	19.0	19.6	19.6	20.3	21.0	22.9	23.5	23.5	24.1	24.9
	8H	19.3	19.9	20.0	20.6	21.3	23.8	24.4	24.4	25.0	25.7

Maximum UGR = 26.6

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	19.2	20.7	19.7	21.2	21.7	22.2	23.7	22.7	24.2	24.8
	3H	20.7	22.1	21.2	22.6	23.2	24.9	26.3	25.4	26.8	27.3
	4H	21.2	22.6	21.8	23.1	23.7	26.1	27.4	26.6	27.9	28.5
	6H	21.6	22.8	22.1	23.3	23.9	27.3	28.6	27.9	29.1	29.7
	8H	21.7	22.8	22.2	23.4	24.0	27.9	29.1	28.5	29.7	30.3
	12H	21.7	22.8	22.2	23.4	24.0	28.6	29.7	29.1	30.3	30.9
4H	2H	20.4	21.7	20.9	22.2	22.8	22.7	24.0	23.2	24.5	25.1
	3H	22.3	23.4	22.8	24.0	24.6	25.6	26.7	26.1	27.3	27.9
	4H	23.0	24.0	23.5	24.6	25.2	27.0	28.0	27.5	28.6	29.2
	6H	23.4	24.4	24.0	24.9	25.6	28.4	29.3	29.0	29.9	30.6
	8H	23.6	24.4	24.2	25.0	25.7	29.1	30.0	29.7	30.6	31.2
	12H	23.6	24.4	24.2	25.0	25.7	29.9	30.7	30.5	31.3	31.9
8H	4H	23.9	24.8	24.5	25.3	26.0	27.2	28.1	27.8	28.7	29.3
	6H	24.6	25.4	25.2	26.0	26.7	28.8	29.5	29.4	30.2	30.9
	8H	24.9	25.5	25.5	26.2	26.9	29.7	30.3	30.3	31.0	31.6
	12H	25.0	25.6	25.7	26.3	27.0	30.6	31.2	31.2	31.8	32.6
12H	4H	24.1	24.9	24.7	25.5	26.2	27.2	28.0	27.9	28.6	29.3
	6H	25.0	25.6	25.6	26.3	27.0	28.9	29.5	29.5	30.1	30.9
	8H	25.3	25.9	26.0	26.6	27.3	29.8	30.4	30.4	31.0	31.7

Maximum UGR = 32.6

## 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	1474	1474	1475	1473	1475	1474	1474	1474	1475	1473	1475	1474	1474	1474	1475	1473	1475	1474	1474
5	1467	1466	1468	1466	1469	1468	1468	1468	1469	1466	1468	1466	1467	1466	1468	1466	1469	1468	1468
10	1444	1445	1447	1449	1453	1455	1456	1455	1453	1449	1447	1445	1444	1445	1447	1449	1453	1455	1456
15	1406	1410	1415	1418	1429	1435	1437	1435	1429	1418	1415	1410	1406	1410	1415	1418	1429	1435	1437
20	1352	1361	1371	1379	1397	1407	1411	1407	1397	1379	1371	1361	1352	1361	1371	1379	1397	1407	1411
25	1286	1299	1316	1331	1356	1372	1378	1372	1356	1331	1316	1299	1286	1299	1316	1331	1356	1372	1378
30	1208	1226	1251	1276	1307	1329	1338	1329	1307	1276	1251	1226	1208	1226	1251	1276	1307	1329	1338
35	1118	1142	1176	1212	1254	1282	1292	1282	1254	1212	1176	1142	1118	1142	1176	1212	1254	1282	1292
40	1022	1052	1096	1141	1193	1229	1244	1229	1193	1141	1096	1052	1022	1052	1096	1141	1193	1229	1244
45	919	954	1010	1067	1130	1172	1189	1172	1130	1067	1010	954	919	954	1010	1067	1130	1172	1189
50	811	853	920	990	1062	1111	1128	1111	1062	990	920	853	811	853	920	990	1062	1111	1128
55	700	747	827	910	989	1042	1063	1042	989	910	827	747	700	747	827	910	989	1042	1063
60	587	642	735	828	915	970	989	970	915	828	735	642	587	642	735	828	915	970	989
65	473	536	642	745	830	878	894	878	830	745	642	536	473	536	642	745	830	878	894
70	359	433	551	654	727	769	785	769	727	654	551	433	359	433	551	654	727	769	785
75	247	334	459	548	614	653	668	653	614	548	459	334	247	334	459	548	614	653	668
80	144	241	356	435	500	537	552	537	500	435	356	241	144	241	356	435	500	537	552
85	57.2	152	248	326	387	424	437	424	387	326	248	152	57.2	152	248	326	387	424	437
90	9.12	68.7	153	226	285	321	333	321	285	226	153	68.7	9.12	68.7	153	226	285	321	333
95	5.91	45.7	123	193	248	284	299	284	248	193	123	45.7	5.91	45.7	123	193	248	284	299
100	6.82	29.1	100	167	222	254	269	254	222	167	100	29.1	6.82	29.1	100	167	222	254	269
105	8.09	14.9	76.9	141	193	224	237	224	193	141	76.9	14.9	8.09	14.9	76.9	141	193	224	237
110	8.28	6.90	55.1	114	162	192	204	192	162	114	55.1	6.90	8.28	6.90	55.1	114	162	192	204
115	8.55	6.61	34.6	87.3	131	159	169	159	131	87.3	34.6	6.61	8.55	6.61	34.6	87.3	131	159	169
120	8.55	6.61	16.4	61.6	101	126	135	126	101	61.6	16.4	6.61	8.55	6.61	16.4	61.6	101	126	135
125	8.55	6.89	6.62	37.5	72.2	94.8	103	94.8	72.2	37.5	6.62	6.89	8.55	6.89	6.62	37.5	72.2	94.8	103
130	8.28	6.98	5.50	15.9	44.5	64.8	71.7	64.8	44.5	15.9	5.50	6.98	8.28	6.98	5.50	15.9	44.5	64.8	71.7
135	8.10	7.26	5.23	5.25	19.7	36.3	42.5	36.3	19.7	5.25	5.23	7.26	8.10	7.26	5.23	5.25	19.7	36.3	42.5
140	8.10	7.26	5.04	3.84	4.80	11.8	16.1	11.8	4.80	3.84	5.04	7.26	8.10	7.26	5.04	3.84	4.80	11.8	16.1
145	8.10	7.26	4.68	3.39	2.77	2.89	3.28	2.89	2.77	3.39	4.68	7.26	8.10	7.26	4.68	3.39	2.77	2.89	3.28
150	7.91	7.17	4.22	3.21	2.68	2.42	2.06	2.42	2.68	3.21	4.22	7.17	7.91	7.17	4.22	3.21	2.68	2.42	2.06
155	7.10	6.43	3.76	3.11	2.58	2.42	2.06	2.42	2.58	3.11	3.76	6.43	7.10	6.43	3.76	3.11	2.58	2.42	2.06
160	6.55	5.88	3.49	2.84	2.58	2.42	2.06	2.42	2.58	2.84	3.49	5.88	6.55	5.88	3.49	2.84	2.58	2.42	2.06
165	7.00	6.42	3.67	2.93	2.68	2.51	2.34	2.51	2.68	2.93	3.67	6.42	7.00	6.42	3.67	2.93	2.68	2.51	2.34
170	8.46	7.34	4.31	3.39	3.05	3.06	2.62	3.06	3.05	3.39	4.31	7.34	8.46	7.34	4.31	3.39	3.05	3.06	2.62
175	8.46	7.71	4.59	4.02	3.42	3.35	3.09	3.35	3.42	4.02	4.59	7.71	8.46	7.71	4.59	4.02	3.42	3.35	3.09
180	8.55	7.62	4.59	4.21	3.69	3.72	3.47	3.72	3.69	4.21	4.59	7.62	8.55	7.62	4.59	4.21	3.69	3.72	3.47

Table--2

UNIT: cd

C (DEG) γ (DEG)	285	300	315	330	345														
0	1474	1475	1473	1475	1474														
5	1468	1469	1466	1468	1466														
10	1455	1453	1449	1447	1445														
15	1435	1429	1418	1415	1410														
20	1407	1397	1379	1371	1361														
25	1372	1356	1331	1316	1299														
30	1329	1307	1276	1251	1226														
35	1282	1254	1212	1176	1142														
40	1229	1193	1141	1096	1052														
45	1172	1130	1067	1010	954														
50	1111	1062	990	920	853														
55	1042	989	910	827	747														
60	970	915	828	735	642														
65	878	830	745	642	536														
70	769	727	654	551	433														
75	653	614	548	459	334														
80	537	500	435	356	241														
85	424	387	326	248	152														
90	321	285	226	153	68.7														
95	284	248	193	123	45.7														
100	254	222	167	100	29.1														
105	224	193	141	76.9	14.9														
110	192	162	114	55.1	6.90														
115	159	131	87.3	34.6	6.61														
120	126	101	61.6	16.4	6.61														
125	94.8	72.2	37.5	6.62	6.89														
130	64.8	44.5	15.9	5.50	6.98														
135	36.3	19.7	5.25	5.23	7.26														
140	11.8	4.80	3.84	5.04	7.26														
145	2.89	2.77	3.39	4.68	7.26														
150	2.42	2.68	3.21	4.22	7.17														
155	2.42	2.58	3.11	3.76	6.43														
160	2.42	2.58	2.84	3.49	5.88														
165	2.51	2.68	2.93	3.67	6.42														
170	3.06	3.05	3.39	4.31	7.34														
175	3.35	3.42	4.02	4.59	7.71														
180	3.72	3.69	4.21	4.59	7.62														

## 4.0 LM-79 Measurement and Test Results

### 4.3 THD and PF Test

<b>Model No.</b>	STRP4H @40W3500K	<b>Sample ID</b>	241225006-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	0.319	38.1	0.994	9.58
277.0	60	0.139	36.8	0.956	6.43

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