

Photometric Test Report

Relevant Standards

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

Prepared For

RAB Lighting Inc.

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Revised Date: N/A

1.0 Test Summary

DLC Technical Requirements V5.1

Direct Linear Ambient Luminaires					
Requirement Category		Test Method	Requirements		Test Value
Luminaire Output (lm) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	375 lm/ft		749
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Standard	Premium	151.3
			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	7.58
				277V	8.44
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	3465±245	3440
			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%		56.5%
Discomfort Glare (UGR) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Standard	Premium	30.2
			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	2024-12-26	STRP4 @20W3500K	-	241225005-S1
2	Goniophotometer Test	2024-12-26	STRP4 @20W3500K	-	241225005-S1
3	THD and PF Test	2024-12-26	STRP4 @20W3500K	-	241225005-S1

Remark (If any):

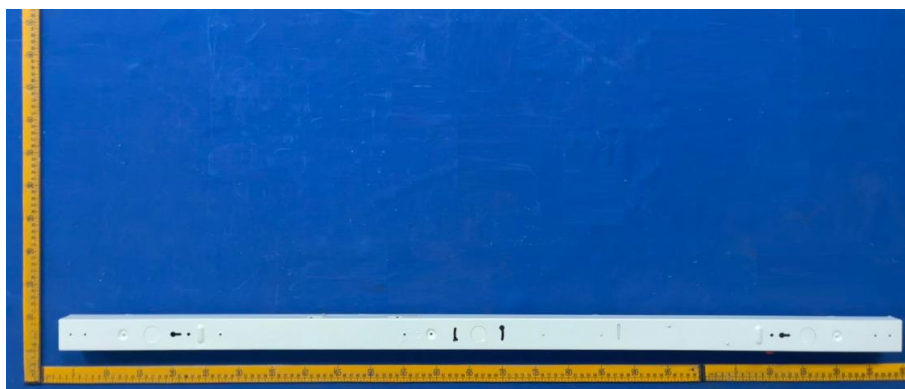
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3.0 Product Description

Luminaire Description: Model No. STRP4 @20W3500K, color tunable from 3500K, 4000K and 5000K.

Electrical Specification: 120-277Vac, 50/60Hz

Photos of Luminaire Characteristics



4.0 LM-79 Measurement and Test Results

4.1 Integrating Sphere Test

Model No.	STRP4 @20W3500K	Sample ID	241225005-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

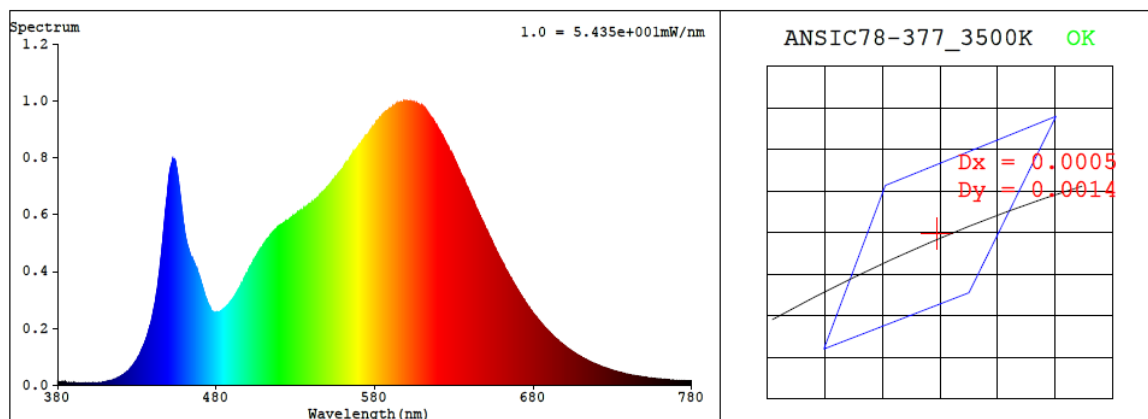
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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
3440	83.7	10	0.0005	85	95	-12%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4093$ $y = 0.3938$ / $u' = 0.2370$ $v' = 0.5131$ ($duv=5.03e-04$)

CCT= 3440K Prcp WL: Ld=580.9nm Purity=41.0%

Peak WL: Lp=599nm FWHM: =144.1nm Ratio: R=20.6% G=76.2% B=3.2%

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

EEI: 0.09311 A++ Highest

R1 =82 R2 =91 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

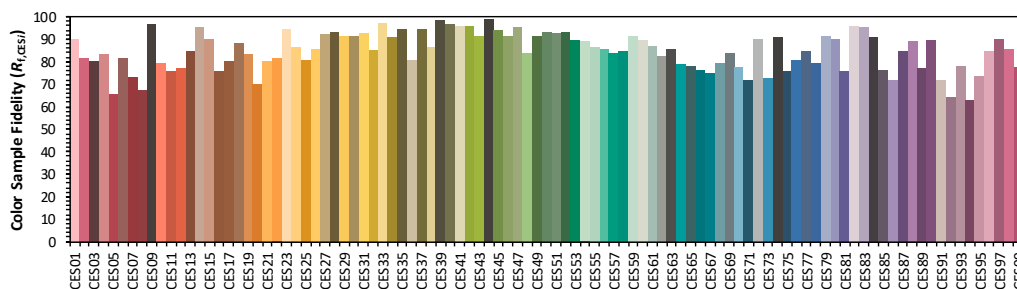
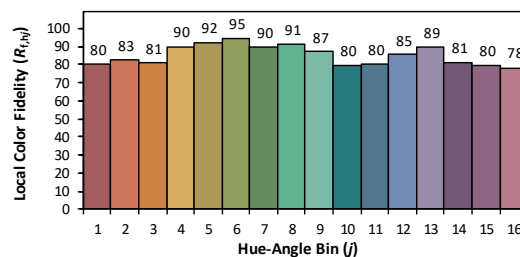
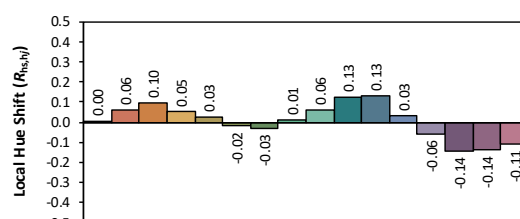
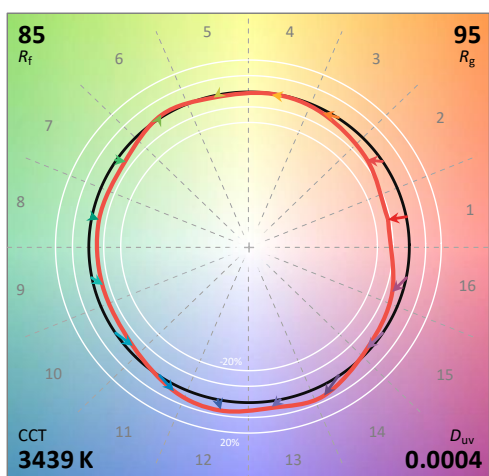
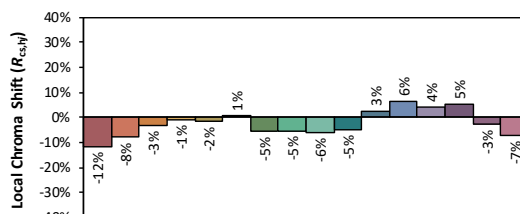
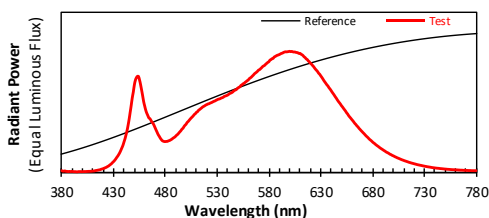
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2024/12/30

Model: STRP4 @20W3500K



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

x 0.4093
 y 0.3937
 u' 0.2371
 v' 0.5131

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	1.50E-05	447	5.55E-04	514	5.26E-04	581	9.27E-04	648	5.76E-04	715	8.50E-05
381	1.11E-05	448	6.16E-04	515	5.33E-04	582	9.31E-04	649	5.65E-04	716	8.28E-05
382	1.15E-05	449	6.64E-04	516	5.40E-04	583	9.39E-04	650	5.52E-04	717	7.99E-05
383	1.30E-05	450	7.22E-04	517	5.45E-04	584	9.40E-04	651	5.41E-04	718	7.74E-05
384	9.30E-06	451	7.61E-04	518	5.50E-04	585	9.51E-04	652	5.29E-04	719	7.52E-05
385	9.50E-06	452	7.82E-04	519	5.56E-04	586	9.56E-04	653	5.18E-04	720	7.28E-05
386	7.80E-06	453	7.93E-04	520	5.60E-04	587	9.61E-04	654	5.07E-04	721	7.06E-05
387	9.00E-06	454	7.92E-04	521	5.65E-04	588	9.66E-04	655	4.93E-04	722	6.83E-05
388	8.40E-06	455	7.64E-04	522	5.67E-04	589	9.69E-04	656	4.83E-04	723	6.58E-05
389	8.20E-06	456	7.26E-04	523	5.72E-04	590	9.73E-04	657	4.69E-04	724	6.37E-05
390	9.40E-06	457	6.81E-04	524	5.75E-04	591	9.77E-04	658	4.58E-04	725	6.20E-05
391	7.10E-06	458	6.34E-04	525	5.79E-04	592	9.82E-04	659	4.48E-04	726	5.99E-05
392	6.90E-06	459	5.84E-04	526	5.83E-04	593	9.84E-04	660	4.37E-04	727	5.86E-05
393	7.00E-06	460	5.48E-04	527	5.87E-04	594	9.89E-04	661	4.27E-04	728	5.64E-05
394	5.90E-06	461	5.15E-04	528	5.91E-04	595	9.93E-04	662	4.16E-04	729	5.45E-05
395	5.50E-06	462	4.89E-04	529	5.96E-04	596	9.95E-04	663	4.04E-04	730	5.27E-05
396	7.40E-06	463	4.70E-04	530	6.00E-04	597	9.95E-04	664	3.96E-04	731	5.09E-05
397	7.40E-06	464	4.51E-04	531	6.04E-04	598	9.96E-04	665	3.84E-04	732	4.95E-05
398	7.80E-06	465	4.45E-04	532	6.06E-04	599	9.97E-04	666	3.76E-04	733	4.77E-05
399	7.00E-06	466	4.31E-04	533	6.10E-04	600	9.99E-04	667	3.65E-04	734	4.64E-05
400	7.50E-06	467	4.16E-04	534	6.14E-04	601	9.97E-04	668	3.56E-04	735	4.50E-05
401	7.50E-06	468	4.06E-04	535	6.17E-04	602	9.98E-04	669	3.46E-04	736	4.36E-05
402	8.10E-06	469	3.89E-04	536	6.21E-04	603	9.95E-04	670	3.37E-04	737	4.19E-05
403	7.80E-06	470	3.70E-04	537	6.28E-04	604	9.93E-04	671	3.28E-04	738	4.04E-05
404	8.70E-06	471	3.51E-04	538	6.31E-04	605	9.94E-04	672	3.19E-04	739	3.94E-05
405	8.80E-06	472	3.32E-04	539	6.34E-04	606	9.91E-04	673	3.10E-04	740	3.81E-05
406	9.60E-06	473	3.13E-04	540	6.38E-04	607	9.89E-04	674	3.01E-04	741	3.70E-05
407	9.60E-06	474	2.99E-04	541	6.44E-04	608	9.87E-04	675	2.93E-04	742	3.60E-05
408	1.02E-05	475	2.84E-04	542	6.51E-04	609	9.81E-04	676	2.85E-04	743	3.50E-05
409	1.07E-05	476	2.73E-04	543	6.54E-04	610	9.83E-04	677	2.75E-04	744	3.44E-05
410	1.21E-05	477	2.63E-04	544	6.58E-04	611	9.75E-04	678	2.68E-04	745	3.30E-05
411	1.24E-05	478	2.58E-04	545	6.64E-04	612	9.71E-04	679	2.61E-04	746	3.20E-05
412	1.47E-05	479	2.55E-04	546	6.72E-04	613	9.64E-04	680	2.53E-04	747	3.14E-05
413	1.65E-05	480	2.55E-04	547	6.78E-04	614	9.54E-04	681	2.45E-04	748	3.04E-05
414	1.78E-05	481	2.56E-04	548	6.82E-04	615	9.47E-04	682	2.39E-04	749	2.96E-05
415	1.99E-05	482	2.57E-04	549	6.88E-04	616	9.37E-04	683	2.31E-04	750	2.84E-05
416	2.14E-05	483	2.61E-04	550	6.97E-04	617	9.32E-04	684	2.25E-04	751	2.80E-05
417	2.33E-05	484	2.64E-04	551	7.02E-04	618	9.21E-04	685	2.18E-04	752	2.69E-05
418	2.70E-05	485	2.69E-04	552	7.07E-04	619	9.13E-04	686	2.12E-04	753	2.63E-05
419	2.92E-05	486	2.74E-04	553	7.18E-04	620	9.02E-04	687	2.05E-04	754	2.57E-05
420	3.24E-05	487	2.80E-04	554	7.23E-04	621	8.94E-04	688	1.99E-04	755	2.49E-05
421	3.61E-05	488	2.87E-04	555	7.31E-04	622	8.84E-04	689	1.94E-04	756	2.43E-05
422	3.96E-05	489	2.92E-04	556	7.35E-04	623	8.75E-04	690	1.88E-04	757	2.36E-05
423	4.33E-05	490	3.00E-04	557	7.43E-04	624	8.63E-04	691	1.82E-04	758	2.31E-05
424	4.87E-05	491	3.09E-04	558	7.49E-04	625	8.52E-04	692	1.77E-04	759	2.29E-05
425	5.33E-05	492	3.16E-04	559	7.57E-04	626	8.42E-04	693	1.71E-04	760	2.21E-05
426	5.99E-05	493	3.26E-04	560	7.62E-04	627	8.32E-04	694	1.66E-04	761	2.16E-05
427	6.65E-05	494	3.36E-04	561	7.74E-04	628	8.19E-04	695	1.62E-04	762	2.15E-05
428	7.34E-05	495	3.45E-04	562	7.80E-04	629	8.11E-04	696	1.56E-04	763	2.07E-05
429	8.28E-05	496	3.58E-04	563	7.86E-04	630	7.98E-04	697	1.51E-04	764	2.02E-05
430	9.06E-05	497	3.65E-04	564	7.95E-04	631	7.86E-04	698	1.47E-04	765	1.94E-05
431	1.00E-04	498	3.79E-04	565	8.04E-04	632	7.73E-04	699	1.42E-04	766	1.94E-05
432	1.11E-04	499	3.90E-04	566	8.14E-04	633	7.59E-04	700	1.38E-04	767	1.90E-05
433	1.24E-04	500	3.99E-04	567	8.20E-04	634	7.47E-04	701	1.34E-04	768	1.81E-05
434	1.36E-04	501	4.13E-04	568	8.27E-04	635	7.35E-04	702	1.29E-04	769	1.79E-05
435	1.50E-04	502	4.20E-04	569	8.35E-04	636	7.23E-04	703	1.26E-04	770	1.74E-05
436	1.65E-04	503	4.31E-04	570	8.44E-04	637	7.13E-04	704	1.21E-04	771	1.69E-05
437	1.84E-04	504	4.41E-04	571	8.48E-04	638	6.99E-04	705	1.18E-04	772	1.70E-05
438	2.04E-04	505	4.51E-04	572	8.57E-04	639	6.89E-04	706	1.14E-04	773	1.61E-05
439	2.24E-04	506	4.59E-04	573	8.65E-04	640	6.77E-04	707	1.10E-04	774	1.63E-05
440	2.52E-04	507	4.68E-04	574	8.74E-04	641	6.63E-04	708	1.07E-04	775	1.58E-05
441	2.79E-04	508	4.79E-04	575	8.79E-04	642	6.51E-04	709	1.03E-04	776	1.51E-05
442	3.12E-04	509	4.85E-04	576	8.85E-04	643	6.39E-04	710	1.00E-04	777	1.51E-05
443	3.47E-04	510	4.96E-04	577	8.94E-04	644	6.25E-04	711	9.69E-05	778	1.49E-05
444	3.91E-04	511	5.01E-04	578	9.01E-04	645	6.14E-04	712	9.43E-05	779	1.51E-05
445	4.41E-04	512	5.13E-04	579	9.09E-04	646	6.00E-04	713	9.12E-05	780	1.51E-05
446	4.98E-04	513	5.19E-04	580	9.14E-04	647	5.87E-04	714	8.85E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	STRP4 @20W3500K	Sample ID	241225005-S1
Operate time (Min.)	30	Stabilization time (Min.)	60
Temperature (°C)	25.0	Humidity (%RH)	42.1

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

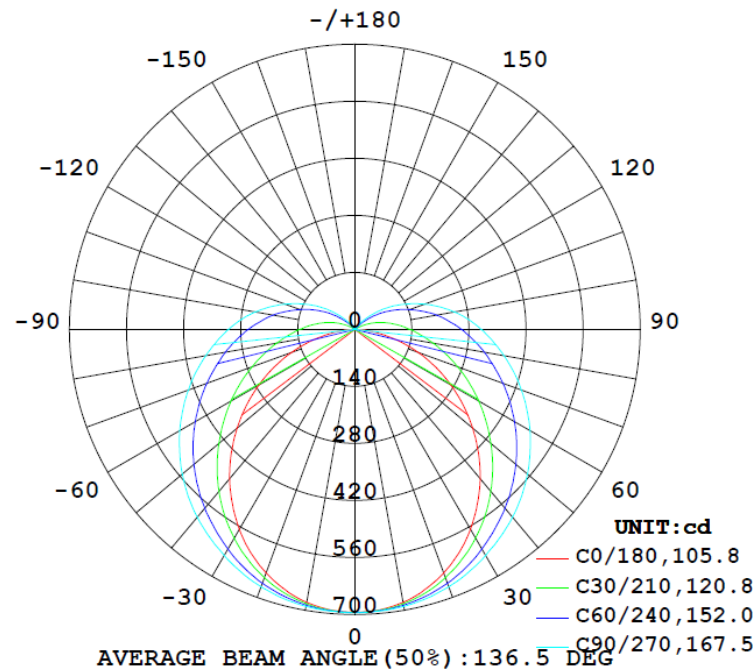
Flux (lm)	Flux per feet (lm/ft)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)
		C0-180	C90-270	C0-180	C90-270	
2996	749	160.7	160.7	106.0	167.6	151.3

Zonal Lumen Requirement (0°-60°)	UGR	
	Crosswise	Endwise
56.5%	22.0	30.2

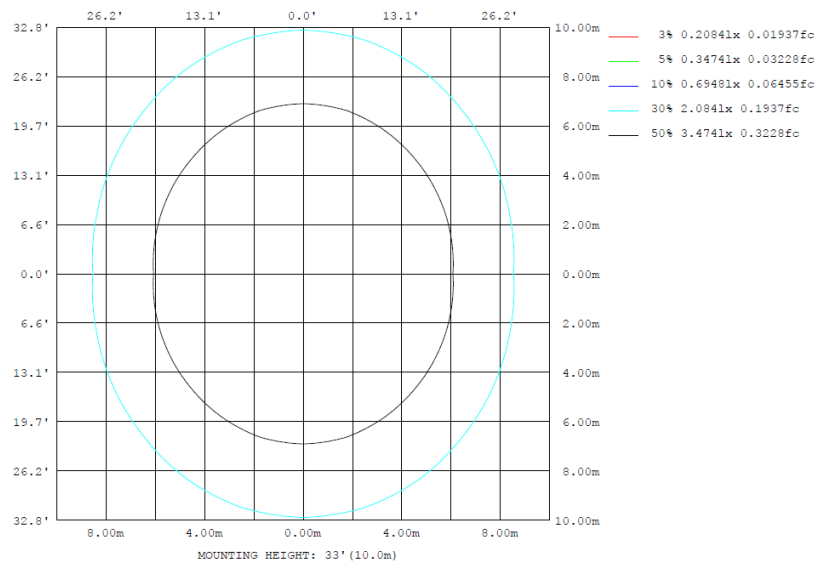
4.2 Goniophotometer Test

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	680.1	684.6	690.1	684.6	680.1	684.6	690.1	684.6	0- 10	65.90	65.90	2.2,2.2
20	636.7	655.4	672.5	655.4	636.7	655.4	672.5	655.4	10- 20	190.2	256.1	8.55,8.55
30	566.7	606.3	640.9	606.3	566.7	606.3	640.9	606.3	20- 30	292.2	548.2	18.3,18.3
40	478.2	543.8	601.5	543.8	478.2	543.8	601.5	543.8	30- 40	361.2	909.4	30.3,30.3
50	377.3	475.5	552.9	475.5	377.3	475.5	552.9	475.5	40- 50	393.3	1303	43.5,43.5
60	271.7	403.8	496.1	403.8	271.7	403.8	496.1	403.8	50- 60	389.1	1692	56.5,56.5
70	164.8	331.6	434.5	331.6	164.8	331.6	434.5	331.6	60- 70	353.9	2046	68.3,68.3
80	64.67	264.0	371.5	264.0	64.67	264.0	371.5	264.0	70- 80	297.6	2343	78.2,78.2
90	4.992	205.7	310.3	205.7	4.992	205.7	310.3	205.7	80- 90	233.7	2577	86,86
100	3.295	151.5	248.5	151.5	3.295	151.5	248.5	151.5	90-100	176.6	2754	91.9,91.9
110	4.049	99.31	182.0	99.31	4.049	99.31	182.0	99.31	100-110	121.6	2875	96,96
120	4.214	52.12	119.4	52.12	4.214	52.12	119.4	52.12	110-120	72.89	2948	98.4,98.4
130	4.214	11.72	61.95	11.72	4.214	11.72	61.95	11.72	120-130	34.60	2983	99.5,99.5
140	4.214	2.023	12.82	2.023	4.214	2.023	12.82	2.023	130-140	10.26	2993	99.9,99.9
150	4.214	1.647	1.195	1.647	4.214	1.647	1.195	1.647	140-150	1.587	2995	99.9,99.9
160	3.664	1.476	1.206	1.476	3.664	1.476	1.206	1.476	150-160	0.9531	2996	100,100
170	4.670	1.474	1.399	1.474	4.670	1.474	1.399	1.474	160-170	0.5843	2996	100,100
180	4.947	1.658	1.318	1.658	4.947	1.658	1.318	1.658	170-180	0.2157	2996	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Zonal (lm)		Total (lm) Percent	
0-10	65.90	0-10	65.90 2.20%
10-20	190.15	0-20	256.05 8.55%
20-30	292.15	0-30	548.20 18.30%
30-40	361.20	0-40	909.40 30.35%
40-50	393.34	0-50	1302.74 43.48%
50-60	389.13	0-60	1691.87 56.47%
60-70	353.94	0-70	2045.81 68.28%
70-80	297.61	0-80	2343.42 78.21%
80-90	233.68	0-90	2577.10 86.01%
90-100	176.57	0-100	2753.67 91.91%
100-110	121.63	0-110	2875.30 95.97%
110-120	72.89	0-120	2948.19 98.40%
120-130	34.60	0-130	2982.79 99.55%
130-140	10.26	0-140	2993.05 99.90%
140-150	1.59	0-150	2994.64 99.95%
150-160	0.95	0-160	2995.59 99.98%
160-170	0.58	0-170	2996.17 100.00%
170-180	0.22	0-180	2996.39 100.01%

4.2 Goniophotometer Test

UGR – Uncorrected Table:

UGR TABLE - UNCORRECTED

Reflectances											
Ceiling Cavity		70	70	50	50	30	70	70	50	50	30
Walls		50	30	50	30	30	50	30	50	30	30
Floor Cavity		20	20	20	20	20	20	20	20	20	20
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	14.2	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	17.4	16.8	18.0	18.7	24.6	25.8	25.2	26.4	27.1
	8H	16.2	17.4	16.8	18.0	18.7	25.4	26.6	26.1	27.2	27.9
	12H	16.3	17.3	16.9	18.0	18.7	26.4	27.5	27.1	28.2	28.9
4H	2H	15.5	16.8	16.1	17.4	18.0	18.7	19.9	19.3	20.5	21.2
	3H	17.2	18.3	17.8	18.9	19.6	21.9	23.0	22.5	23.6	24.3
	4H	17.8	18.8	18.4	19.4	20.1	23.6	24.6	24.2	25.2	26.0
	6H	18.2	19.0	18.8	19.7	20.5	25.5	26.3	26.1	27.0	27.8
	8H	18.2	19.1	18.9	19.7	20.5	26.4	27.3	27.1	28.0	28.7
	12H	18.3	19.1	19.0	19.7	20.5	27.6	28.3	28.2	29.0	29.8
8H	4H	18.9	19.8	19.6	20.4	21.2	23.8	24.6	24.4	25.3	26.0
	6H	19.6	20.3	20.3	21.0	21.8	25.8	26.5	26.4	27.2	28.0
	8H	19.8	20.5	20.5	21.2	22.0	26.9	27.5	27.6	28.3	29.0
	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	21.5	23.8	24.5	24.4	25.2	26.0
	6H	20.1	20.8	20.8	21.5	22.3	25.8	26.5	26.5	27.1	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		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	18.0	19.4	18.5	20.0	20.6	22.2	23.6	22.7	24.2	24.8
	3H	19.3	20.6	19.9	21.2	21.9	25.2	26.5	25.8	27.1	27.8
	4H	19.7	21.0	20.3	21.6	22.3	26.7	28.0	27.3	28.6	29.3
	6H	20.0	21.2	20.6	21.8	22.5	28.4	29.6	29.0	30.2	30.9
	8H	20.0	21.2	20.6	21.8	22.5	29.2	30.4	29.9	31.0	31.7
	12H	20.1	21.1	20.7	21.8	22.5	30.2	31.3	30.9	32.0	32.7
4H	2H	19.3	20.6	19.9	21.2	21.8	22.5	23.7	23.1	24.3	25.0
	3H	21.0	22.1	21.6	22.7	23.4	25.7	26.8	26.3	27.4	28.1
	4H	21.6	22.6	22.2	23.2	23.9	27.4	28.4	28.0	29.0	29.8
	6H	22.0	22.8	22.6	23.5	24.3	29.3	30.1	29.9	30.8	31.6
	8H	22.0	22.9	22.7	23.5	24.3	30.2	31.1	30.9	31.8	32.5
	12H	22.1	22.9	22.8	23.5	24.3	31.4	32.1	32.0	32.8	33.6
8H	4H	22.7	23.6	23.4	24.2	25.0	27.6	28.4	28.2	29.1	29.8
	6H	23.4	24.1	24.1	24.8	25.6	29.6	30.3	30.2	31.0	31.8
	8H	23.6	24.3	24.3	25.0	25.8	30.7	31.3	31.4	32.1	32.8
	12H	23.8	24.3	24.5	25.0	25.9	32.0	32.6	32.7	33.3	34.1
12H	4H	23.1	23.9	23.8	24.6	25.3	27.6	28.3	28.2	29.0	29.8
	6H	23.9	24.6	24.6	25.3	26.1	29.6	30.3	30.3	30.9	31.8
	8H	24.3	24.9	25.0	25.6	26.4	30.8	31.4	31.5	32.1	32.9

Maximum UGR = 34.1

4.2 Goniophotometer Test

Luminous Distribution Intensity Data

Table--1

UNIT: cd

C (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
γ (DEG)	0	694	695	694	694	695	695	695	695	694	694	695	694	695	694	694	695	695	695
5	691	692	692	692	693	694	694	694	693	692	692	692	691	692	692	692	693	694	694
10	680	683	684	685	687	690	690	690	687	685	684	683	680	683	684	685	687	690	690
15	662	666	670	673	677	682	683	682	677	673	670	666	662	666	670	673	677	682	683
20	637	643	649	655	663	670	672	670	663	655	649	643	637	643	649	655	663	670	672
25	605	613	622	633	645	655	658	655	645	633	622	613	605	613	622	633	645	655	658
30	567	579	592	606	623	636	641	636	623	606	592	579	567	579	592	606	623	636	641
35	524	538	557	577	598	617	622	617	598	577	557	538	524	538	557	577	598	617	622
40	478	495	519	544	573	595	601	595	573	544	519	495	478	495	519	544	573	595	601
45	429	448	478	510	545	570	578	570	545	510	478	448	429	448	478	510	545	570	578
50	377	400	436	476	515	543	553	543	515	476	436	400	377	400	436	476	515	543	553
55	325	351	393	440	485	515	525	515	485	440	393	351	325	351	393	440	485	515	525
60	272	300	351	404	452	485	496	485	452	404	351	300	272	300	351	404	452	485	496
65	218	251	309	367	420	454	466	454	420	367	309	251	218	251	309	367	420	454	466
70	165	202	268	332	386	423	435	423	386	332	268	202	165	202	268	332	386	423	435
75	113	158	230	298	354	391	403	391	354	298	230	158	113	158	230	298	354	391	403
80	64.7	117	195	264	322	359	372	359	322	264	195	117	64.7	117	195	264	322	359	372
85	25.4	82.6	163	234	291	327	340	327	291	234	163	82.6	25.4	82.6	163	234	291	327	340
90	4.99	56.7	136	206	262	298	310	298	262	206	136	56.7	4.99	56.7	136	206	262	298	310
95	3.35	38.7	112	179	232	267	280	267	232	179	112	38.7	3.35	38.7	112	179	232	267	280
100	3.30	23.6	88.3	152	204	234	249	234	204	152	88.3	23.6	3.30	23.6	88.3	152	204	234	249
105	3.85	10.9	66.4	125	173	202	215	202	173	125	66.4	10.9	3.85	10.9	66.4	125	173	202	215
110	4.05	3.70	46.6	99.3	143	171	182	171	143	99.3	46.6	3.70	4.05	3.70	46.6	99.3	143	171	182
115	4.14	3.42	28.3	74.8	115	139	150	139	115	74.8	28.3	3.42	4.14	3.42	28.3	74.8	115	139	150
120	4.21	3.42	12.0	52.1	87.2	110	119	110	87.2	52.1	12.0	3.42	4.21	3.42	12.0	52.1	87.2	110	119
125	4.21	3.42	3.23	30.9	61.2	81.2	89.8	81.2	61.2	30.9	3.23	3.42	4.21	3.42	3.23	30.9	61.2	81.2	89.8
130	4.21	3.42	2.88	11.7	37.2	54.7	61.9	54.7	37.2	11.7	2.88	3.42	4.21	3.42	2.88	11.7	37.2	54.7	61.9
135	4.21	3.42	2.73	2.82	15.5	30.4	36.1	30.4	15.5	2.82	2.73	3.42	4.21	3.42	2.73	2.82	15.5	30.4	36.1
140	4.21	3.42	2.67	2.02	1.67	8.42	12.8	8.42	1.67	2.02	2.67	3.42	4.21	3.42	2.67	2.02	1.67	8.42	12.8
145	4.21	3.42	2.40	1.84	1.48	1.31	1.41	1.31	1.48	1.84	2.40	3.42	4.21	3.42	2.40	1.84	1.48	1.31	1.41
150	4.21	3.42	2.23	1.65	1.48	1.12	1.19	1.12	1.48	1.65	2.23	3.42	4.21	3.42	2.23	1.65	1.48	1.12	1.19
155	3.95	3.42	2.12	1.57	1.48	1.29	1.18	1.29	1.48	1.57	2.12	3.42	3.95	3.42	2.12	1.57	1.48	1.29	1.18
160	3.66	3.51	1.91	1.48	1.48	1.26	1.21	1.26	1.48	1.48	1.91	3.51	3.66	3.51	1.91	1.48	1.48	1.26	1.21
165	4.05	3.51	1.92	1.47	1.48	1.32	1.26	1.32	1.48	1.47	1.92	3.51	4.05	3.51	1.92	1.47	1.48	1.32	1.26
170	4.67	3.79	1.93	1.47	1.48	1.38	1.40	1.38	1.48	1.47	1.93	3.79	4.67	3.79	1.93	1.47	1.48	1.38	1.40
175	4.86	4.06	1.94	1.62	1.48	1.47	1.34	1.47	1.48	1.62	1.94	4.06	4.86	4.06	1.94	1.62	1.48	1.47	1.34
180	4.95	4.25	2.03	1.66	1.58	1.50	1.32	1.50	1.58	1.66	2.03	4.25	4.95	4.25	2.03	1.66	1.58	1.50	1.32

Table--2

UNIT: cd

C (DEG)	285	300	315	330	345														
γ (DEG)	0	695	695	694	694	695													
5	694	693	692	692	692														
10	690	687	685	684	683														
15	682	677	673	670	666														
20	670	663	655	649	643														
25	655	645	633	622	613														
30	636	623	606	592	579														
35	617	598	577	557	538														
40	595	573	544	519	495														
45	570	545	510	478	448														
50	543	515	476	436	400														
55	515	485	440	393	351														
60	485	452	404	351	300														
65	454	420	367	309	251														
70	423	386	332	268	202														
75	391	354	298	230	158														
80	359	322	264	195	117														
85	327	291	234	163	82.6														
90	298	262	206	136	56.7														
95	267	232	179	112	38.7														
100	234	204	152	88.3	23.6														
105	202	173	125	66.4	10.9														
110	171	143	99.3	46.6	3.70														
115	139	115	74.8	28.3	3.42														
120	110	87.2	52.1	12.0	3.42														
125	81.2	61.2	30.9	3.23	3.42														
130	54.7	37.2	11.7	2.88	3.42														
135	30.4	15.5	2.82	2.73	3.42														
140	8.42	1.67	2.02	2.67	3.42														
145	1.31	1.48	1.84	2.40	3.42														
150	1.12	1.48	1.65	2.23	3.42														
155	1.29	1.48	1.57	2.12	3.42														
160	1.26	1.48	1.48	1.91	3.51														
165	1.32	1.48	1.47	1.92	3.51														
170	1.38	1.48	1.47	1.93	3.79														
175	1.47	1.48	1.62	1.94	4.06														
180	1.50	1.58	1.66	2.03	4.25														

4.0 LM-79 Measurement and Test Results

4.3 THD and PF Test

Model No.	STRP4 @20W3500K	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	7.58
277.0	60	0.074	19.6	0.954	8.44

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*****