

Photometric Test Report

Relevant Standards

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

Prepared For

RAB Lighting Inc.

Address: 408 W 14th St New York, NY 10014

Prepared By

Dongguan New Testing Centre Co., Ltd.

Address: 3F No. 1 the 1st North Industry Road, Songshan Lake Science & Technology Park, Dongguan, Guangdong, China

Prepare by:

Alan Wang

Engineer: Alan Wang

Date: 2025-01-21

Review by:

Vincent Yuan

Technical Lead: Vincent Yuan

Issue Date: 2025-01-21

Revised Date: N/A

1.0 Test Summary

DLC Technical Requirements V5.1

2x2 Luminaires for Ambient Lighting of Interior Commercial Spaces				
Requirement Category	Test Method	Requirements		Test Value
Luminaire Output (lm) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	2000		3549
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	133.9
		110	125	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		26.5
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	10.24
			277V	10.21
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.994
			277V	0.927
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	5029±283	4779
		4 steps	5029±220	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥80		82.7
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥0		6
Minimum Rf (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥70		83
Minimum Rg (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥89		93
IES Rcs,h1 (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	-12%≤IES Rcs,h1≤+23%		-13%
Zonal Lumen Requirement (0°-60°) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	≥75%		77.9%
Discomfort Glare (UGR) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	20.7
		N/A	<22	
Spacing Criterion (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	0°-180°	1.0-2.0	1.26
		90°-270°	1.0-2.0	1.26
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		0.103
(Goniophotometer – Section 4.2)		Non-Worst Case		0.216
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		26.5
(Goniophotometer – Section 4.2)		Non-Worst Case		25.8

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-17	EZP2X2 @25W5000K	-	250117002-S1
2	Goniophotometer Test	2025-01-17	EZP2X2 @25W5000K	-	250117002-S1
3	THD and PF Test	2025-01-17	EZP2X2 @25W5000K	-	250117002-S1

Remark (If any):

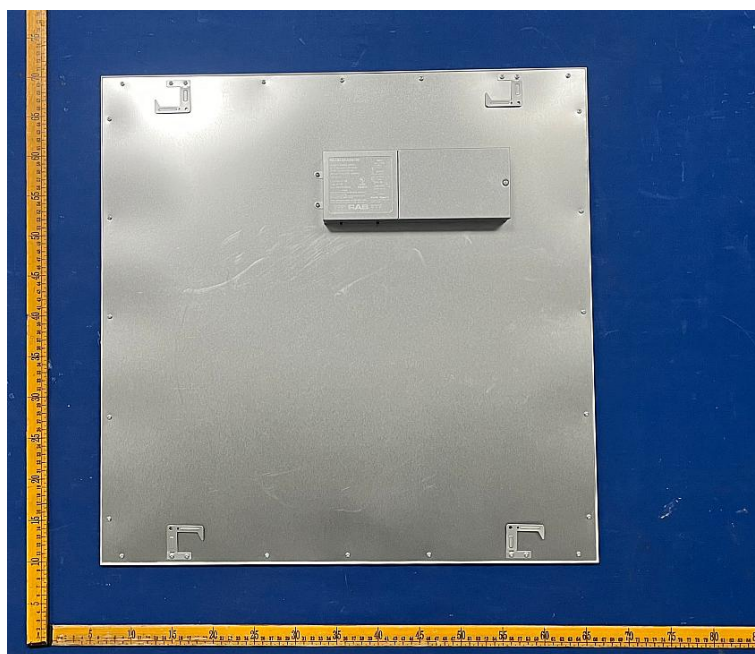
1. The results contained in this report pertain only to the tested samples.
2. This report shall not be reproduced, no limited part or full, without approval of Dongguan New Testing Centre Co., Ltd.
3. This report must not be used by the client to claim product certification, approval, or endorsement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

3.0 Product Description

Luminaire Description: Model No. EZP2X2 @25W5000K, 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.	EZP2X2 @25W5000K	Sample ID	250117002-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

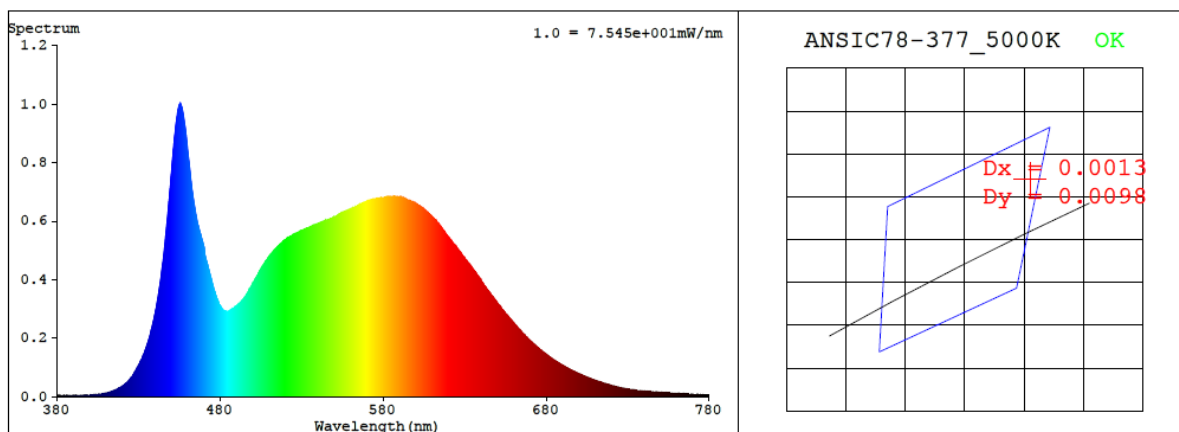
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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	0.216	25.8	0.994
277.0	60	0.103	26.5	0.927

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
4779	82.7	6	0.0043	83	93	-13%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3529$ $y = 0.3665$ / $u' = 0.2109$ $v' = 0.4929$ ($duv=4.32e-03$)

CCT= 4779K Prcp WL: $L_d=571.8\text{nm}$ Purity=15.9%

Peak WL: $L_p=456\text{nm}$ FWHM: $=24.7\text{nm}$ Ratio: R=16.0% G=79.4% B=4.7%

Render Index: $R_a = 82.7$ AvgR = 75.5 TM30: $R_f=83$ $R_g=93$

EEL: 0.11280 A+

R1 =81	R2 =90	R3 =95	R4 =79	R5 =80	R6 =85	R7 =86
R8 =65	R9 =6	R10=76	R11=77	R12=56	R13=84	R14=98 R15=74

4.1 Integrating Sphere Test

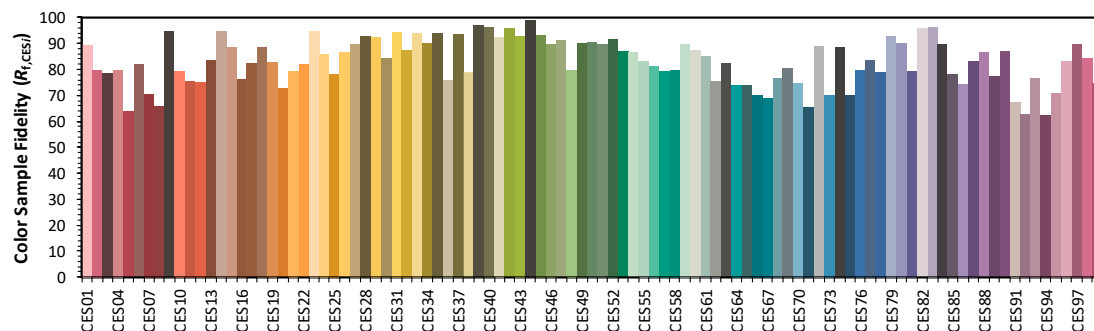
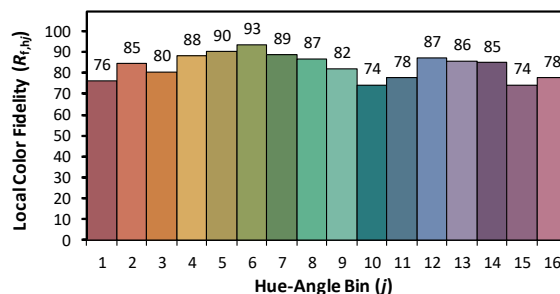
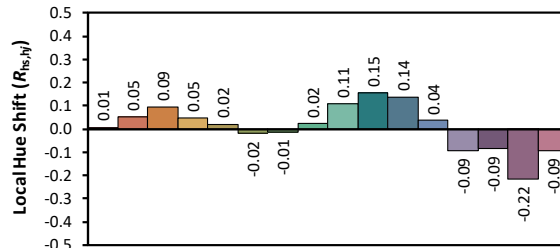
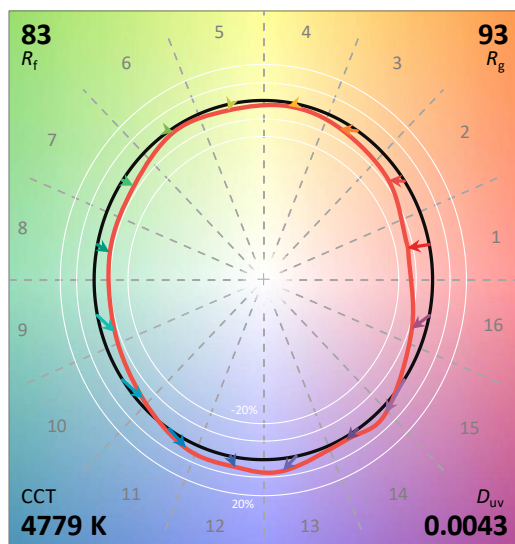
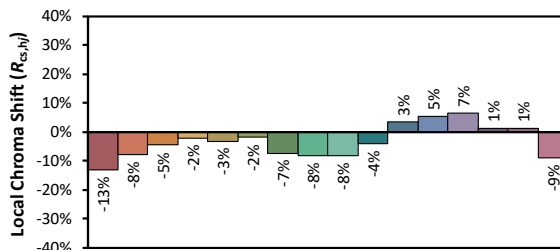
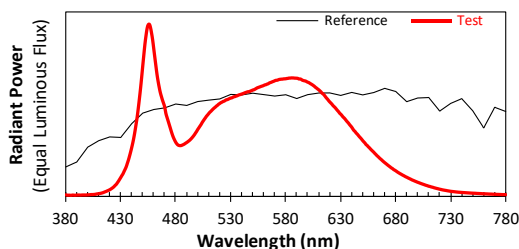
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/21

Model: EZP2X2 @25W5000K



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

x 0.3529
 y 0.3664
 u' 0.2109
 v' 0.4928

CIE 13.3-1995
(CRI)
 R_a 83
 R_9 6

4.1 Integrating Sphere Test

Spectral Distribution over Visible Wavelength											
WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)
380	5.50E-06	447	5.66E-04	514	5.04E-04	581	6.81E-04	648	3.36E-04	715	4.64E-05
381	4.20E-06	448	6.24E-04	515	5.10E-04	582	6.82E-04	649	3.29E-04	716	4.48E-05
382	3.10E-06	449	6.88E-04	516	5.15E-04	583	6.84E-04	650	3.20E-04	717	4.30E-05
383	3.60E-06	450	7.54E-04	517	5.21E-04	584	6.83E-04	651	3.13E-04	718	4.16E-05
384	3.00E-06	451	8.19E-04	518	5.26E-04	585	6.85E-04	652	3.06E-04	719	3.98E-05
385	2.70E-06	452	8.82E-04	519	5.32E-04	586	6.84E-04	653	2.98E-04	720	3.81E-05
386	4.00E-06	453	9.31E-04	520	5.36E-04	587	6.84E-04	654	2.92E-04	721	3.68E-05
387	3.90E-06	454	9.73E-04	521	5.41E-04	588	6.83E-04	655	2.85E-04	722	3.52E-05
388	3.10E-06	455	9.93E-04	522	5.44E-04	589	6.83E-04	656	2.79E-04	723	3.38E-05
389	3.20E-06	456	9.96E-04	523	5.48E-04	590	6.83E-04	657	2.72E-04	724	3.27E-05
390	4.30E-06	457	9.78E-04	524	5.50E-04	591	6.82E-04	658	2.65E-04	725	3.15E-05
391	4.00E-06	458	9.45E-04	525	5.54E-04	592	6.78E-04	659	2.59E-04	726	3.05E-05
392	4.60E-06	459	9.05E-04	526	5.58E-04	593	6.78E-04	660	2.53E-04	727	2.91E-05
393	3.80E-06	460	8.54E-04	527	5.59E-04	594	6.76E-04	661	2.46E-04	728	2.81E-05
394	4.00E-06	461	8.03E-04	528	5.62E-04	595	6.72E-04	662	2.40E-04	729	2.70E-05
395	4.60E-06	462	7.52E-04	529	5.65E-04	596	6.70E-04	663	2.33E-04	730	2.59E-05
396	4.60E-06	463	7.03E-04	530	5.68E-04	597	6.68E-04	664	2.27E-04	731	2.52E-05
397	4.70E-06	464	6.64E-04	531	5.69E-04	598	6.66E-04	665	2.21E-04	732	2.45E-05
398	4.50E-06	465	6.29E-04	532	5.72E-04	599	6.63E-04	666	2.15E-04	733	2.38E-05
399	5.00E-06	466	5.99E-04	533	5.75E-04	600	6.60E-04	667	2.10E-04	734	2.30E-05
400	5.40E-06	467	5.76E-04	534	5.76E-04	601	6.57E-04	668	2.03E-04	735	2.22E-05
401	5.50E-06	468	5.54E-04	535	5.79E-04	602	6.53E-04	669	1.98E-04	736	2.15E-05
402	6.30E-06	469	5.36E-04	536	5.81E-04	603	6.49E-04	670	1.92E-04	737	2.08E-05
403	7.00E-06	470	5.15E-04	537	5.85E-04	604	6.45E-04	671	1.87E-04	738	2.04E-05
404	7.10E-06	471	4.79E-04	538	5.87E-04	605	6.41E-04	672	1.82E-04	739	1.98E-05
405	7.30E-06	472	4.57E-04	539	5.89E-04	606	6.36E-04	673	1.77E-04	740	1.93E-05
406	7.90E-06	473	4.36E-04	540	5.91E-04	607	6.30E-04	674	1.72E-04	741	1.88E-05
407	8.80E-06	474	4.15E-04	541	5.93E-04	608	6.26E-04	675	1.67E-04	742	1.85E-05
408	1.04E-05	475	3.94E-04	542	5.96E-04	609	6.20E-04	676	1.62E-04	743	1.80E-05
409	1.12E-05	476	3.73E-04	543	5.99E-04	610	6.16E-04	677	1.58E-04	744	1.76E-05
410	1.23E-05	477	3.54E-04	544	6.01E-04	611	6.10E-04	678	1.53E-04	745	1.71E-05
411	1.35E-05	478	3.37E-04	545	6.03E-04	612	6.04E-04	679	1.49E-04	746	1.67E-05
412	1.47E-05	479	3.23E-04	546	6.05E-04	613	5.96E-04	680	1.45E-04	747	1.62E-05
413	1.65E-05	480	3.11E-04	547	6.05E-04	614	5.91E-04	681	1.41E-04	748	1.59E-05
414	1.85E-05	481	3.02E-04	548	6.09E-04	615	5.85E-04	682	1.36E-04	749	1.54E-05
415	2.11E-05	482	2.95E-04	549	6.11E-04	616	5.76E-04	683	1.32E-04	750	1.52E-05
416	2.37E-05	483	2.92E-04	550	6.14E-04	617	5.68E-04	684	1.28E-04	751	1.48E-05
417	2.61E-05	484	2.91E-04	551	6.16E-04	618	5.61E-04	685	1.25E-04	752	1.46E-05
418	2.92E-05	485	2.92E-04	552	6.19E-04	619	5.53E-04	686	1.21E-04	753	1.41E-05
419	3.19E-05	486	2.95E-04	553	6.23E-04	620	5.45E-04	687	1.18E-04	754	1.37E-05
420	3.53E-05	487	2.98E-04	554	6.27E-04	621	5.39E-04	688	1.14E-04	755	1.34E-05
421	3.90E-05	488	3.01E-04	555	6.29E-04	622	5.32E-04	689	1.11E-04	756	1.30E-05
422	4.36E-05	489	3.06E-04	556	6.31E-04	623	5.24E-04	690	1.08E-04	757	1.28E-05
423	4.82E-05	490	3.10E-04	557	6.34E-04	624	5.18E-04	691	1.04E-04	758	1.23E-05
424	5.40E-05	491	3.14E-04	558	6.36E-04	625	5.11E-04	692	1.01E-04	759	1.19E-05
425	6.09E-05	492	3.19E-04	559	6.38E-04	626	5.03E-04	693	9.81E-05	760	1.16E-05
426	6.69E-05	493	3.25E-04	560	6.41E-04	627	4.96E-04	694	9.50E-05	761	1.13E-05
427	7.62E-05	494	3.31E-04	561	6.44E-04	628	4.89E-04	695	9.16E-05	762	1.11E-05
428	8.54E-05	495	3.38E-04	562	6.45E-04	629	4.80E-04	696	8.92E-05	763	1.08E-05
429	9.58E-05	496	3.46E-04	563	6.49E-04	630	4.74E-04	697	8.63E-05	764	1.04E-05
430	1.06E-04	497	3.55E-04	564	6.50E-04	631	4.67E-04	698	8.36E-05	765	1.01E-05
431	1.17E-04	498	3.65E-04	565	6.55E-04	632	4.58E-04	699	8.10E-05	766	9.80E-06
432	1.27E-04	499	3.74E-04	566	6.57E-04	633	4.52E-04	700	7.83E-05	767	9.70E-06
433	1.41E-04	500	3.85E-04	567	6.60E-04	634	4.45E-04	701	7.61E-05	768	9.20E-06
434	1.54E-04	501	3.94E-04	568	6.63E-04	635	4.37E-04	702	7.35E-05	769	8.90E-06
435	1.69E-04	502	4.04E-04	569	6.65E-04	636	4.29E-04	703	7.11E-05	770	8.70E-06
436	1.89E-04	503	4.14E-04	570	6.68E-04	637	4.22E-04	704	6.88E-05	771	8.40E-06
437	2.08E-04	504	4.25E-04	571	6.70E-04	638	4.14E-04	705	6.65E-05	772	8.10E-06
438	2.31E-04	505	4.35E-04	572	6.71E-04	639	4.06E-04	706	6.44E-05	773	8.00E-06
439	2.55E-04	506	4.44E-04	573	6.73E-04	640	3.98E-04	707	6.18E-05	774	7.70E-06
440	2.81E-04	507	4.53E-04	574	6.76E-04	641	3.88E-04	708	5.99E-05	775	7.50E-06
441	3.09E-04	508	4.62E-04	575	6.76E-04	642	3.79E-04	709	5.79E-05	776	7.20E-06
442	3.41E-04	509	4.70E-04	576	6.77E-04	643	3.73E-04	710	5.55E-05	777	6.90E-06
443	3.78E-04	510	4.78E-04	577	6.78E-04	644	3.65E-04	711	5.42E-05	778	6.80E-06
444	4.18E-04	511	4.85E-04	578	6.79E-04	645	3.58E-04	712	5.20E-05	779	6.80E-06
445	4.60E-04	512	4.91E-04	579	6.79E-04	646	3.51E-04	713	5.03E-05	780	6.80E-06
446	5.11E-04	513	4.98E-04	580	6.80E-04	647	3.43E-04	714	4.87E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	EZP2X2 @25W5000K	Sample ID	250117002-S1
Operate time (Min.)	30	Stabilization time (Min.)	60
Temperature (°C)	24.6	Humidity (%RH)	42.2

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 $25 \pm 1^\circ\text{C}$, 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	277.0	60	0.103	26.5	0.927
NON-WORST CASE	120.0	60	0.216	25.8	0.994

Test Result

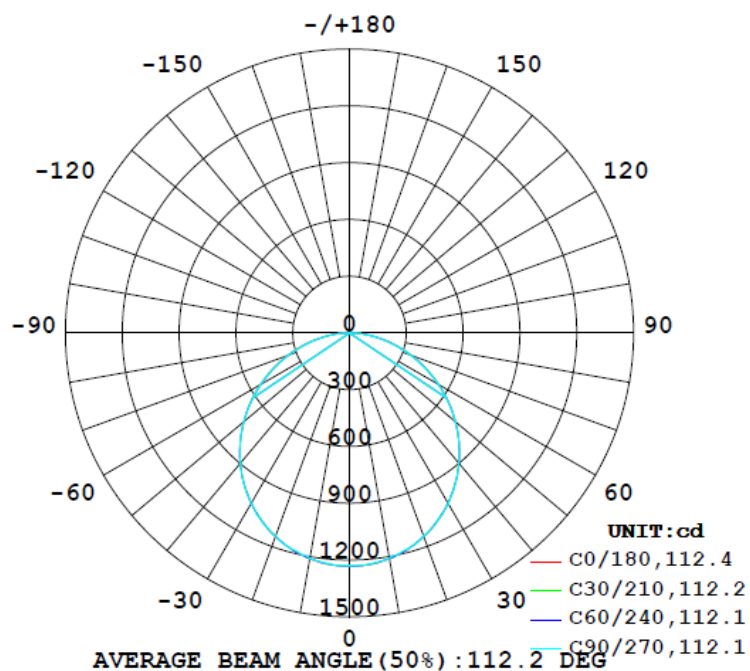
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement (0°-60°)
	C0-180	C90-270	C0-180	C90-270		
3549	164.8	164.1	112.5	112.0	133.9	77.9%

UGR		Spacing Criterion	
Crosswise	Endwise	(0°-180°)	(90°-270°)
20.7	20.6	1.26	1.26

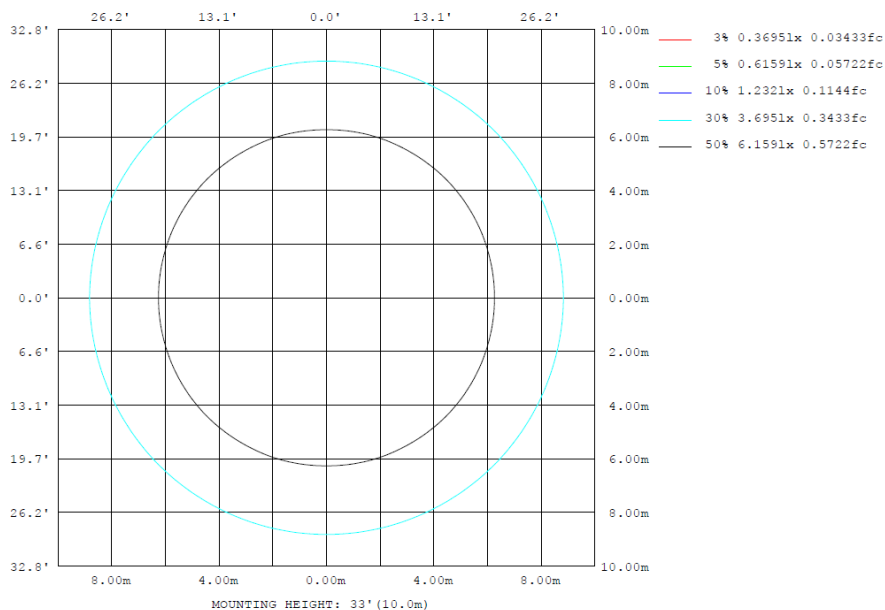
4.2 Goniophotometer Test

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	1211	1210	1208	1210	1211	1210	1208	1210	0- 10	116.5	116.5	3.28, 3.28
20	1146	1146	1141	1146	1146	1146	1141	1146	10- 20	333.8	450.4	12.7, 12.7
30	1040	1041	1044	1041	1040	1041	1044	1041	20- 30	505.4	955.8	26.9, 26.9
40	898.2	899.6	895.9	899.6	898.2	899.6	895.9	899.6	30- 40	608.4	1564	44.1, 44.1
50	731.4	730.3	729.4	730.3	731.4	730.3	729.4	730.3	40- 50	630.0	2194	61.8, 61.8
60	544.2	540.6	538.5	540.6	544.2	540.6	538.5	540.6	50- 60	569.5	2764	77.9, 77.9
70	349.4	344.9	341.4	344.9	349.4	344.9	341.4	344.9	60- 70	438.5	3202	90.2, 90.2
80	162.3	158.6	154.2	158.6	162.3	158.6	154.2	158.6	70- 80	263.6	3466	97.7, 97.7
90	0	0	0	0	0	0	0	0	80- 90	83.28	3549	100, 100
100	0	0	0	0	0	0	0	0	90-100	0	3549	100, 100
110	0	0	0	0	0	0	0	0	100-110	0	3549	100, 100
120	0	0	0	0	0	0	0	0	110-120	0	3549	100, 100
130	0	0	0	0	0	0	0	0	120-130	0	3549	100, 100
140	0	0	0	0	0	0	0	0	130-140	0	3549	100, 100
150	0	0	0	0	0	0	0	0	140-150	0	3549	100, 100
160	0	0	0	0	0	0	0	0	150-160	0	3549	100, 100
170	0	0	0	0	0	0	0	0	160-170	0	3549	100, 100
180	0	0	0	0	0	0	0	0	170-180	0	3549	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Zonal (lm)		Total (lm)		Percent
0-10	116.54	0-10	116.54	3.28%
10-20	333.82	0-20	450.36	12.69%
20-30	505.42	0-30	955.78	26.93%
30-40	608.42	0-40	1564.20	44.07%
40-50	630.02	0-50	2194.22	61.82%
50-60	569.48	0-60	2763.70	77.87%
60-70	438.53	0-70	3202.23	90.23%
70-80	263.64	0-80	3465.87	97.65%
80-90	83.28	0-90	3549.15	100.00%
90-100	0.00	0-100	3549.15	100.00%
100-110	0.00	0-110	3549.15	100.00%
110-120	0.00	0-120	3549.15	100.00%
120-130	0.00	0-130	3549.15	100.00%
130-140	0.00	0-140	3549.15	100.00%
140-150	0.00	0-150	3549.15	100.00%
150-160	0.00	0-160	3549.15	100.00%
160-170	0.00	0-170	3549.15	100.00%
170-180	0.00	0-180	3549.15	100.00%

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										
X=2H	Y=2H	11.7	13.3	12.0	13.6	13.9	11.6	13.3	12.0	13.6
	3H	13.6	15.1	13.9	15.4	15.7	13.5	15.0	13.9	15.3
	4H	14.3	15.7	14.7	16.1	16.4	14.2	15.6	14.6	16.0
	6H	14.9	16.2	15.3	16.6	17.0	14.8	16.1	15.2	16.4
	8H	15.1	16.4	15.5	16.7	17.1	15.0	16.2	15.4	16.6
	12H	15.3	16.5	15.7	16.8	17.3	15.1	16.3	15.5	16.7
UGR Viewed Endwise										
4H	2H	12.3	13.7	12.7	14.1	14.4	12.3	13.7	12.7	14.0
	3H	14.4	15.6	14.8	16.0	16.4	14.4	15.5	14.8	15.9
	4H	15.3	16.4	15.7	16.8	17.2	15.2	16.3	15.6	16.7
	6H	16.0	17.0	16.5	17.4	17.9	15.9	16.9	16.4	17.3
	8H	16.3	17.2	16.8	17.6	18.1	16.2	17.0	16.6	17.5
	12H	16.5	17.3	17.0	17.8	18.3	16.4	17.2	16.8	17.6
8H	4H	15.6	16.5	16.1	17.0	17.4	15.6	16.4	16.0	16.9
	6H	16.5	17.3	17.0	17.7	18.2	16.4	17.1	16.9	17.6
	8H	16.9	17.5	17.4	18.1	18.5	16.7	17.4	17.2	17.9
	12H	17.2	17.8	17.7	18.3	18.8	17.0	17.6	17.5	18.1
12H	4H	15.7	16.5	16.2	17.0	17.4	15.6	16.4	16.1	16.9
	6H	16.6	17.3	17.1	17.7	18.3	16.5	17.2	17.0	17.6
	8H	17.0	17.6	17.5	18.1	18.7	16.9	17.5	17.4	18.0

Maximum UGR = 18.8

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										
X=2H	Y=2H	16.1	17.7	16.4	18.0	18.3	16.0	17.7	16.4	18.0
	3H	18.0	19.5	18.3	19.8	20.1	17.9	19.4	18.3	19.7
	4H	18.7	20.1	19.1	20.5	20.8	18.6	20.0	19.0	20.4
	6H	19.3	20.6	19.7	21.0	21.4	19.2	20.5	19.6	20.8
	8H	19.5	20.8	19.9	21.1	21.5	19.4	20.6	19.8	21.0
	12H	19.7	20.9	20.1	21.2	21.7	19.5	20.7	19.9	21.1
UGR Viewed Endwise										
4H	2H	16.7	18.1	17.1	18.5	18.8	16.7	18.1	17.1	18.4
	3H	18.8	20.0	19.2	20.4	20.8	18.8	19.9	19.2	20.3
	4H	19.7	20.8	20.1	21.2	21.6	19.6	20.7	20.0	21.1
	6H	20.4	21.4	20.9	21.8	22.3	20.3	21.3	20.8	21.7
	8H	20.7	21.6	21.2	22.0	22.5	20.6	21.4	21.0	21.9
	12H	20.9	21.7	21.4	22.2	22.7	20.8	21.6	21.2	22.0
8H	4H	20.0	20.9	20.5	21.4	21.8	20.0	20.8	20.4	21.3
	6H	20.9	21.7	21.4	22.1	22.6	20.8	21.5	21.3	22.0
	8H	21.3	21.9	21.8	22.5	22.9	21.1	21.8	21.6	22.3
	12H	21.6	22.2	22.1	22.7	23.2	21.4	22.0	21.9	22.5
12H	4H	20.1	20.9	20.6	21.4	21.8	20.0	20.8	20.5	21.3
	6H	21.0	21.7	21.5	22.1	22.7	20.9	21.6	21.4	22.0
	8H	21.4	22.0	21.9	22.5	23.1	21.3	21.9	21.8	22.4

Maximum UGR = 23.2

4.2 Goniophotometer Test

Luminous Distribution Intensity Data

Table--1

UNIT: cd

C (DEG) y (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	1232	1230	1229	1234	1231	1229	1230	1229	1231	1234	1229	1230	1232	1230	1229	1234	1231	1229	1230
5	1226	1228	1228	1226	1226	1224	1225	1224	1226	1226	1228	1228	1226	1228	1228	1226	1226	1224	1225
10	1211	1211	1209	1210	1211	1208	1208	1208	1211	1210	1209	1211	1211	1211	1209	1210	1211	1208	1208
15	1182	1185	1183	1184	1184	1182	1183	1182	1184	1184	1183	1185	1182	1185	1183	1184	1184	1182	1183
20	1146	1145	1143	1146	1143	1145	1141	1145	1143	1146	1143	1145	1146	1145	1143	1146	1143	1145	1141
25	1097	1097	1095	1098	1097	1098	1096	1098	1097	1098	1095	1097	1097	1097	1095	1098	1097	1098	1096
30	1040	1039	1038	1041	1039	1039	1044	1039	1039	1041	1038	1039	1040	1039	1038	1041	1039	1039	1044
35	973	973	972	974	973	973	974	973	973	974	972	973	973	973	972	974	973	973	974
40	898	897	897	900	898	899	896	899	898	900	897	897	898	897	897	900	898	899	896
45	818	816	815	818	817	817	817	817	817	818	815	816	818	816	815	818	817	817	817
50	731	730	730	730	729	729	729	729	729	730	730	730	731	730	730	730	729	729	729
55	640	639	637	637	636	636	636	636	637	637	639	640	639	639	637	637	636	636	636
60	544	543	542	541	540	539	539	539	540	541	542	543	544	543	542	541	540	539	539
65	447	446	444	443	441	441	441	441	441	443	444	446	447	446	444	443	441	441	441
70	349	349	346	345	343	341	341	341	343	345	346	349	349	349	346	345	343	341	341
75	254	253	251	249	247	245	244	245	247	249	251	253	254	253	251	249	247	245	244
80	162	162	160	159	156	155	154	155	156	159	160	162	162	162	160	159	156	155	154
85	77.2	77.2	76.3	75.3	73.7	72.4	72.2	72.4	73.7	75.3	76.3	77.2	77.2	77.2	76.3	75.3	73.7	72.4	72.2
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table--2

UNIT: cd

C (DEG) y (DEG)	285	300	315	330	345														
0	1229	1231	1234	1229	1230														
5	1224	1226	1226	1228	1228														
10	1208	1211	1210	1209	1211														
15	1182	1184	1184	1183	1185														
20	1145	1143	1146	1143	1145														
25	1098	1097	1098	1095	1097														
30	1039	1039	1041	1038	1039														
35	973	973	974	972	973														
40	899	898	900	897	897														
45	817	817	818	815	816														
50	729	729	730	730	730														
55	636	636	637	637	639														
60	539	540	541	542	543														
65	441	441	443	444	446														
70	341	343	345	346	349														
75	245	247	249	251	253														
80	155	156	159	160	162														
85	72.4	73.7	75.3	76.3	77.2														
90	0.00	0.00	0.00	0.00	0.00														
95	0.00	0.00	0.00	0.00	0.00														
100	0.00	0.00	0.00	0.00	0.00														
105	0.00	0.00	0.00	0.00	0.00														
110	0.00	0.00	0.00	0.00	0.00														
115	0.00	0.00	0.00	0.00	0.00														
120	0.00	0.00	0.00	0.00	0.00														
125	0.00	0.00	0.00	0.00	0.00														
130	0.00	0.00	0.00	0.00	0.00														
135	0.00	0.00	0.00	0.00	0.00														
140	0.00	0.00	0.00	0.00	0.00														
145	0.00	0.00	0.00	0.00	0.00														
150	0.00	0.00	0.00	0.00	0.00														
155	0.00	0.00	0.00	0.00	0.00														
160	0.00	0.00	0.00	0.00	0.00														
165	0.00	0.00	0.00	0.00	0.00														
170	0.00	0.00	0.00	0.00	0.00														
175	0.00	0.00	0.00	0.00	0.00														
180	0.00	0.00	0.00	0.00	0.00														

4.0 LM-79 Measurement and Test Results

4.3 THD and PF Test

Model No.	EZP2X2 @25W5000K	Sample ID	250117002-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	0.216	25.8	0.994	10.24
277.0	60	0.103	26.5	0.927	10.21

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*****