

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

2x4 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	3000		5295
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	137.5
		110	125	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		38.5
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	10.90
			277V	8.82
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.993
			277V	0.955
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	3985±275	4024
		4 steps	3985±154	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥80		84.4
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥0		14
Minimum Rf (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥70		84
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%		-12%
Zonal Lumen Requirement (0°-60°) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	≥75%		78.0%
Discomfort Glare (UGR) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	19.6
		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		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		0.323
(Goniophotometer – Section 4.2)		Non-Worst Case		0.145
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		38.5
(Goniophotometer – Section 4.2)		Non-Worst Case		38.4

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-20	EZP2X4 @40W4000K	-	250117003-S1
2	Goniophotometer Test	2025-01-20	EZP2X4 @40W4000K	-	250117003-S1
3	THD and PF Test	2025-01-20	EZP2X4 @40W4000K	-	250117003-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. EZP2X4 @40W4000K, 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.	EZP2X4 @40W4000K	Sample ID	250117003-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

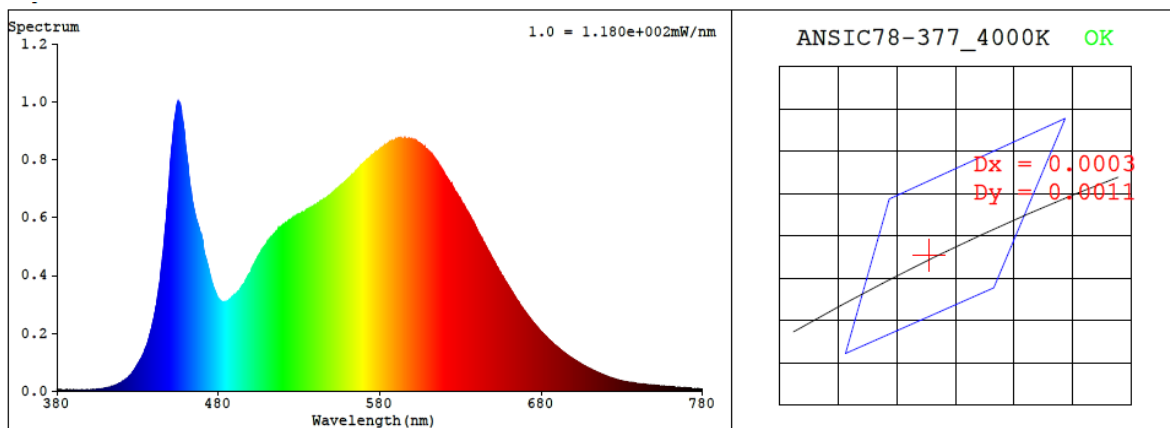
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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	0.323	38.5	0.993
277.0	60	0.145	38.4	0.955

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
4024	84.4	14	0.0004	84	93	-12%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3797$ $y = 0.3772$ / $u' = 0.2245$ $v' = 0.5017$ ($duv=4.13e-04$)

CCT= 4024K Prcp WL: Ld=578.8nm Purity=27.1%

Peak WL: Lp=455nm FWHM: =24.6nm Ratio:R=18.5% G=77.5% B=4.1%

Render Index: Ra = 84.4 AvgR = 78.4 TM30:Rf=84 Rg=94

EEL: 0.09145 A++ Highest

R1 =83 R2 =93 R3 =96 R4 =81 R5 =83 R6 =89 R7 =85

R8 =65 R9 =14 R10=82 R11=80 R12=63 R13=86 R14=98 R15=77

4.1 Integrating Sphere Test

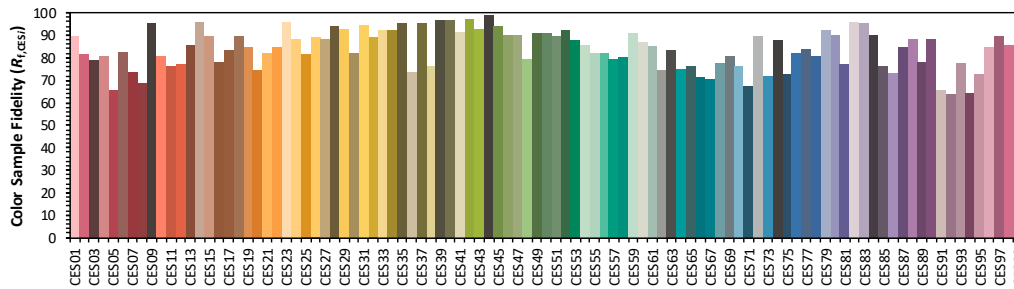
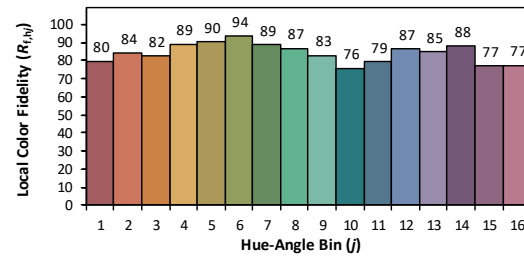
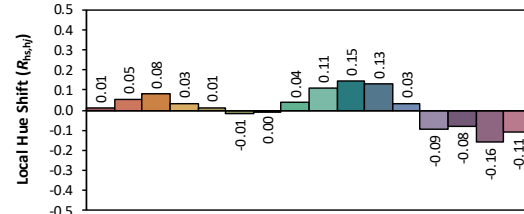
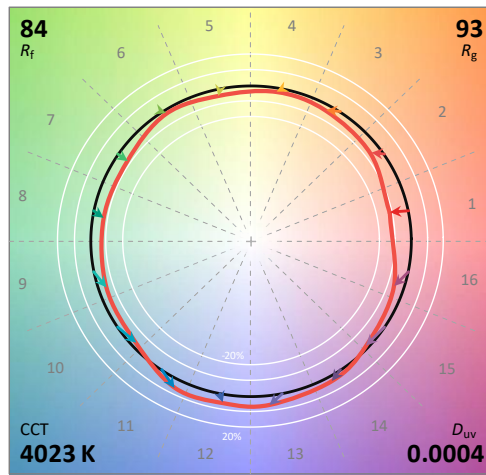
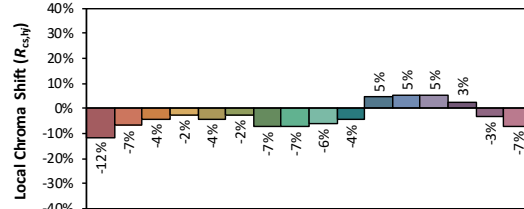
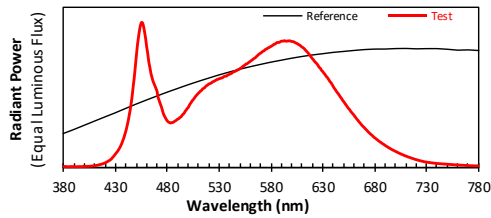
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/21

Model: EZP2X4 @40W4000K



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

x 0.3797
 y 0.3770
 u' 0.2245
 v' 0.5016

CIE 13.3-1995
(CRI)
 R_a 84
 R_g 14

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	5.20E-06	447	5.60E-04	514	5.41E-04	581	8.39E-04	648	4.77E-04	715	6.49E-05
381	5.20E-06	448	6.22E-04	515	5.45E-04	582	8.43E-04	649	4.66E-04	716	6.25E-05
382	4.50E-06	449	6.94E-04	516	5.50E-04	583	8.50E-04	650	4.56E-04	717	6.00E-05
383	4.30E-06	450	7.69E-04	517	5.58E-04	584	8.51E-04	651	4.46E-04	718	5.78E-05
384	3.40E-06	451	8.39E-04	518	5.64E-04	585	8.57E-04	652	4.36E-04	719	5.52E-05
385	2.70E-06	452	8.94E-04	519	5.69E-04	586	8.62E-04	653	4.26E-04	720	5.30E-05
386	5.00E-06	453	9.44E-04	520	5.75E-04	587	8.62E-04	654	4.15E-04	721	5.13E-05
387	3.60E-06	454	9.81E-04	521	5.77E-04	588	8.62E-04	655	4.06E-04	722	4.88E-05
388	4.70E-06	455	1.00E-03	522	5.81E-04	589	8.67E-04	656	3.98E-04	723	4.68E-05
389	3.60E-06	456	9.96E-04	523	5.85E-04	590	8.70E-04	657	3.87E-04	724	4.51E-05
390	4.90E-06	457	9.71E-04	524	5.91E-04	591	8.71E-04	658	3.78E-04	725	4.32E-05
391	4.00E-06	458	9.32E-04	525	5.93E-04	592	8.72E-04	659	3.70E-04	726	4.15E-05
392	3.10E-06	459	8.88E-04	526	5.98E-04	593	8.74E-04	660	3.61E-04	727	3.99E-05
393	3.80E-06	460	8.31E-04	527	6.02E-04	594	8.71E-04	661	3.51E-04	728	3.82E-05
394	4.20E-06	461	7.86E-04	528	6.06E-04	595	8.71E-04	662	3.42E-04	729	3.68E-05
395	4.40E-06	462	7.29E-04	529	6.08E-04	596	8.72E-04	663	3.32E-04	730	3.57E-05
396	4.20E-06	463	6.93E-04	530	6.12E-04	597	8.72E-04	664	3.24E-04	731	3.46E-05
397	4.20E-06	464	6.52E-04	531	6.13E-04	598	8.74E-04	665	3.14E-04	732	3.33E-05
398	4.80E-06	465	6.24E-04	532	6.17E-04	599	8.71E-04	666	3.07E-04	733	3.23E-05
399	5.10E-06	466	5.97E-04	533	6.17E-04	600	8.69E-04	667	2.97E-04	734	3.15E-05
400	5.30E-06	467	5.79E-04	534	6.23E-04	601	8.68E-04	668	2.89E-04	735	3.02E-05
401	5.50E-06	468	5.62E-04	535	6.27E-04	602	8.67E-04	669	2.81E-04	736	2.97E-05
402	6.10E-06	469	5.43E-04	536	6.29E-04	603	8.63E-04	670	2.75E-04	737	2.89E-05
403	6.40E-06	470	5.24E-04	537	6.30E-04	604	8.58E-04	671	2.67E-04	738	2.79E-05
404	6.10E-06	471	4.84E-04	538	6.36E-04	605	8.56E-04	672	2.60E-04	739	2.70E-05
405	6.70E-06	472	4.61E-04	539	6.39E-04	606	8.51E-04	673	2.52E-04	740	2.64E-05
406	7.60E-06	473	4.41E-04	540	6.43E-04	607	8.47E-04	674	2.44E-04	741	2.57E-05
407	8.00E-06	474	4.21E-04	541	6.46E-04	608	8.43E-04	675	2.37E-04	742	2.51E-05
408	8.90E-06	475	3.98E-04	542	6.49E-04	609	8.36E-04	676	2.31E-04	743	2.44E-05
409	1.03E-05	476	3.73E-04	543	6.56E-04	610	8.30E-04	677	2.24E-04	744	2.40E-05
410	1.07E-05	477	3.56E-04	544	6.59E-04	611	8.26E-04	678	2.18E-04	745	2.34E-05
411	1.19E-05	478	3.42E-04	545	6.62E-04	612	8.20E-04	679	2.11E-04	746	2.28E-05
412	1.34E-05	479	3.30E-04	546	6.65E-04	613	8.12E-04	680	2.04E-04	747	2.20E-05
413	1.46E-05	480	3.19E-04	547	6.68E-04	614	8.04E-04	681	2.00E-04	748	2.16E-05
414	1.73E-05	481	3.12E-04	548	6.74E-04	615	7.97E-04	682	1.93E-04	749	2.12E-05
415	1.80E-05	482	3.09E-04	549	6.75E-04	616	7.89E-04	683	1.88E-04	750	2.09E-05
416	2.07E-05	483	3.05E-04	550	6.81E-04	617	7.79E-04	684	1.82E-04	751	2.00E-05
417	2.22E-05	484	3.08E-04	551	6.85E-04	618	7.70E-04	685	1.77E-04	752	1.98E-05
418	2.51E-05	485	3.09E-04	552	6.89E-04	619	7.60E-04	686	1.72E-04	753	1.93E-05
419	2.76E-05	486	3.12E-04	553	6.97E-04	620	7.51E-04	687	1.67E-04	754	1.87E-05
420	3.06E-05	487	3.18E-04	554	7.01E-04	621	7.42E-04	688	1.62E-04	755	1.81E-05
421	3.50E-05	488	3.21E-04	555	7.07E-04	622	7.33E-04	689	1.57E-04	756	1.77E-05
422	3.80E-05	489	3.27E-04	556	7.13E-04	623	7.25E-04	690	1.53E-04	757	1.70E-05
423	4.28E-05	490	3.33E-04	557	7.15E-04	624	7.18E-04	691	1.47E-04	758	1.66E-05
424	4.69E-05	491	3.35E-04	558	7.21E-04	625	7.09E-04	692	1.43E-04	759	1.64E-05
425	5.21E-05	492	3.43E-04	559	7.26E-04	626	6.97E-04	693	1.38E-04	760	1.57E-05
426	5.79E-05	493	3.48E-04	560	7.32E-04	627	6.88E-04	694	1.34E-04	761	1.54E-05
427	6.71E-05	494	3.56E-04	561	7.36E-04	628	6.81E-04	695	1.30E-04	762	1.49E-05
428	7.45E-05	495	3.66E-04	562	7.41E-04	629	6.68E-04	696	1.26E-04	763	1.44E-05
429	8.40E-05	496	3.72E-04	563	7.47E-04	630	6.61E-04	697	1.22E-04	764	1.41E-05
430	9.30E-05	497	3.84E-04	564	7.53E-04	631	6.51E-04	698	1.18E-04	765	1.35E-05
431	1.02E-04	498	3.94E-04	565	7.57E-04	632	6.43E-04	699	1.14E-04	766	1.34E-05
432	1.12E-04	499	4.04E-04	566	7.65E-04	633	6.32E-04	700	1.10E-04	767	1.27E-05
433	1.23E-04	500	4.12E-04	567	7.71E-04	634	6.24E-04	701	1.07E-04	768	1.25E-05
434	1.35E-04	501	4.25E-04	568	7.78E-04	635	6.15E-04	702	1.04E-04	769	1.20E-05
435	1.49E-04	502	4.38E-04	569	7.83E-04	636	6.03E-04	703	1.00E-04	770	1.17E-05
436	1.66E-04	503	4.48E-04	570	7.89E-04	637	5.92E-04	704	9.68E-05	771	1.13E-05
437	1.85E-04	504	4.59E-04	571	7.93E-04	638	5.84E-04	705	9.32E-05	772	1.10E-05
438	2.05E-04	505	4.68E-04	572	8.00E-04	639	5.72E-04	706	9.00E-05	773	1.07E-05
439	2.29E-04	506	4.77E-04	573	8.04E-04	640	5.61E-04	707	8.72E-05	774	1.03E-05
440	2.53E-04	507	4.88E-04	574	8.08E-04	641	5.48E-04	708	8.40E-05	775	1.02E-05
441	2.84E-04	508	4.96E-04	575	8.16E-04	642	5.38E-04	709	8.05E-05	776	9.60E-06
442	3.15E-04	509	5.04E-04	576	8.17E-04	643	5.27E-04	710	7.81E-05	777	9.30E-06
443	3.54E-04	510	5.12E-04	577	8.23E-04	644	5.17E-04	711	7.57E-05	778	9.30E-06
444	3.94E-04	511	5.19E-04	578	8.26E-04	645	5.08E-04	712	7.20E-05	779	9.40E-06
445	4.42E-04	512	5.26E-04	579	8.31E-04	646	4.98E-04	713	7.01E-05	780	9.40E-06
446	4.95E-04	513	5.31E-04	580	8.34E-04	647	4.86E-04	714	6.77E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	EZP2X4 @40W4000K	Sample ID	250117003-S1
Operate time (Min.)	30	Stabilization time (Min.)	60
Temperature (°C)	24.8	Humidity (%RH)	41.3

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	120.0	60	0.323	38.5	0.993
NON-WORST CASE	277.0	60	0.145	38.4	0.955

Test Result

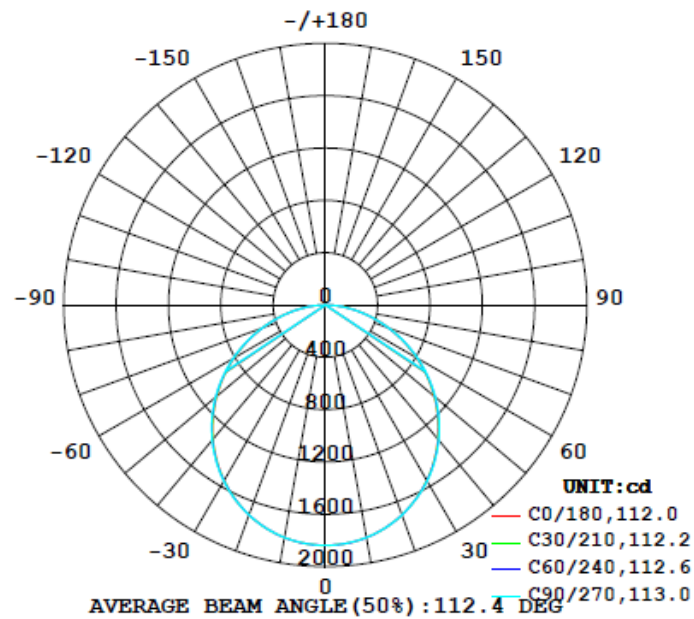
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement
	C0-180	C90-270	C0-180	C90-270		(0°-60°)
5295	164.6	164.0	112.1	112.9	137.5	78.0%

UGR		Spacing Criterion	
Crosswise	Endwise	(0°-180°)	(90°-270°)
19.6	19.6	1.26	1.26

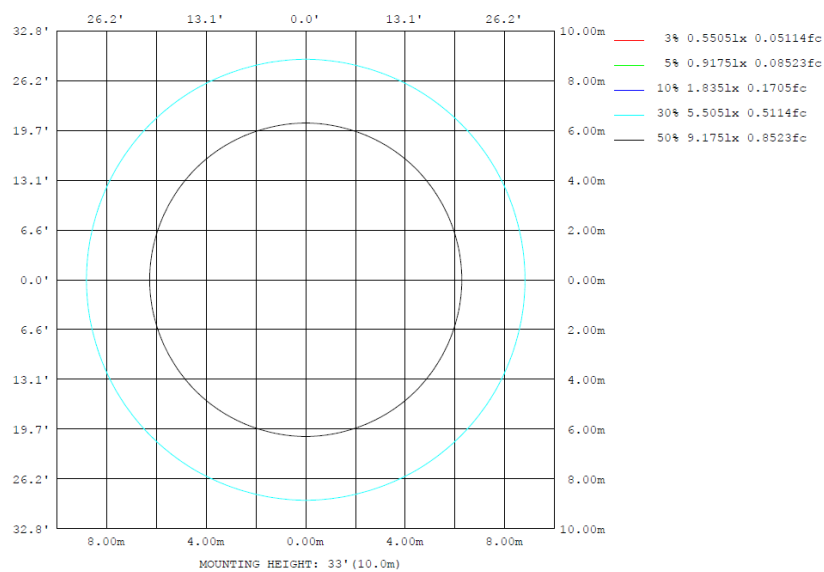
4.2 Goniophotometer Test

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	Φ zone	Φ total	$\%lum, lamp$
10	1805	1804	1805	1804	1805	1804	1805	1804	0- 10	173.8	173.8	3.28,3.28
20	1709	1709	1709	1709	1709	1709	1709	1709	10- 20	497.9	671.7	12.7,12.7
30	1549	1554	1554	1554	1549	1554	1554	1554	20- 30	754.5	1426	26.9,26.9
40	1339	1343	1352	1343	1339	1343	1352	1343	30- 40	908.9	2335	44.1,44.1
50	1083	1094	1098	1094	1083	1094	1098	1094	40- 50	942.0	3277	61.9,61.9
60	805.8	810.7	816.0	810.7	805.8	810.7	816.0	810.7	50- 60	851.8	4129	78.78
70	515.6	514.7	515.6	514.7	515.6	514.7	515.6	514.7	60- 70	655.2	4784	90.3,90.3
80	237.2	232.5	228.5	232.5	237.2	232.5	228.5	232.5	70- 80	390.8	5175	97.7,97.7
90	0	0	0	0	0	0	0	0	80- 90	120.6	5295	100,100
100	0	0	0	0	0	0	0	0	90-100	0	5295	100,100
110	0	0	0	0	0	0	0	0	100-110	0	5295	100,100
120	0	0	0	0	0	0	0	0	110-120	0	5295	100,100
130	0	0	0	0	0	0	0	0	120-130	0	5295	100,100
140	0	0	0	0	0	0	0	0	130-140	0	5295	100,100
150	0	0	0	0	0	0	0	0	140-150	0	5295	100,100
160	0	0	0	0	0	0	0	0	150-160	0	5295	100,100
170	0	0	0	0	0	0	0	0	160-170	0	5295	100,100
180	0	0	0	0	0	0	0	0	170-180	0	5295	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

	Zonal (lm)		Total (lm)	Percent
0-10	173.77	0-10	173.77	3.28%
10-20	497.92	0-20	671.69	12.68%
20-30	754.49	0-30	1426.18	26.93%
30-40	908.93	0-40	2335.11	44.10%
40-50	942.00	0-50	3277.11	61.89%
50-60	851.76	0-60	4128.87	77.97%
60-70	655.21	0-70	4784.08	90.34%
70-80	390.76	0-80	5174.84	97.72%
80-90	120.57	0-90	5295.41	100.00%
90-100	0.00	0-100	5295.41	100.00%
100-110	0.00	0-110	5295.41	100.00%
110-120	0.00	0-120	5295.41	100.00%
120-130	0.00	0-130	5295.41	100.00%
130-140	0.00	0-140	5295.41	100.00%
140-150	0.00	0-150	5295.41	100.00%
150-160	0.00	0-160	5295.41	100.00%
160-170	0.00	0-170	5295.41	100.00%
170-180	0.00	0-180	5295.41	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					UGR Viewed Endwise				
X=2H	Y=2H	9.2	10.9	9.6	11.2	11.5	9.3	10.9	9.6	11.2	11.6
	3H	11.1	12.6	11.5	12.9	13.3	11.1	12.6	11.5	13.0	13.3
	4H	11.8	13.2	12.2	13.6	14.0	11.8	13.3	12.2	13.6	14.0
	6H	12.4	13.7	12.8	14.1	14.5	12.4	13.7	12.8	14.1	14.4
	8H	12.6	13.9	13.0	14.2	14.6	12.6	13.8	13.0	14.2	14.6
	12H	12.8	14.0	13.2	14.3	14.8	12.7	13.9	13.1	14.3	14.7
4H	2H	9.9	11.3	10.3	11.6	12.0	9.9	11.3	10.3	11.7	12.1
	3H	12.0	13.2	12.4	13.6	14.0	12.0	13.2	12.4	13.6	14.0
	4H	12.8	13.9	13.3	14.3	14.8	12.8	13.9	13.3	14.3	14.8
	6H	13.6	14.5	14.0	14.9	15.4	13.5	14.5	14.0	14.9	15.4
	8H	13.8	14.7	14.3	15.2	15.6	13.8	14.7	14.2	15.1	15.6
	12H	14.0	14.8	14.5	15.3	15.8	14.0	14.8	14.4	15.2	15.7
8H	4H	13.2	14.1	13.7	14.5	15.0	13.2	14.1	13.7	14.5	15.0
	6H	14.0	14.8	14.5	15.3	15.7	14.0	14.7	14.5	15.2	15.7
	8H	14.4	15.1	14.9	15.6	16.0	14.3	15.0	14.8	15.5	16.0
	12H	14.7	15.3	15.2	15.8	16.3	14.6	15.2	15.1	15.7	16.2
12H	4H	13.2	14.0	13.7	14.5	15.0	13.2	14.0	13.7	14.5	15.0
	6H	14.1	14.8	14.6	15.3	15.8	14.1	14.8	14.6	15.2	15.8
	8H	14.5	15.1	15.0	15.6	16.2	14.5	15.1	15.0	15.5	16.1

Maximum UGR = 16.3

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	15.0	16.7	15.4	17.0	17.3	15.1	16.7	15.4	17.0	17.4
	3H	16.9	18.4	17.3	18.7	19.1	16.9	18.4	17.3	18.8	19.1
	4H	17.6	19.0	18.0	19.4	19.8	17.6	19.1	18.0	19.4	19.8
	6H	18.2	19.5	18.6	19.9	20.3	18.2	19.5	18.6	19.9	20.2
	8H	18.4	19.7	18.8	20.0	20.4	18.4	19.6	18.8	20.0	20.4
	12H	18.6	19.8	19.0	20.1	20.6	18.5	19.7	18.9	20.1	20.5
4H	2H	15.7	17.1	16.1	17.4	17.8	15.7	17.1	16.1	17.5	17.9
	3H	17.8	19.0	18.2	19.4	19.8	17.8	19.0	18.2	19.4	19.8
	4H	18.6	19.7	19.1	20.1	20.6	18.6	19.7	19.1	20.1	20.6
	6H	19.4	20.3	19.8	20.7	21.2	19.3	20.3	19.8	20.7	21.2
	8H	19.6	20.5	20.1	21.0	21.4	19.6	20.5	20.0	20.9	21.4
	12H	19.8	20.6	20.3	21.1	21.6	19.8	20.6	20.2	21.0	21.5
8H	4H	19.0	19.9	19.5	20.3	20.8	19.0	19.9	19.5	20.3	20.8
	6H	19.8	20.6	20.3	21.1	21.5	19.8	20.5	20.3	21.0	21.5
	8H	20.2	20.9	20.7	21.4	21.8	20.1	20.8	20.6	21.3	21.8
	12H	20.5	21.1	21.0	21.6	22.1	20.4	21.0	20.9	21.5	22.0
12H	4H	19.0	19.8	19.5	20.3	20.8	19.0	19.8	19.5	20.3	20.8
	6H	19.9	20.6	20.4	21.1	21.6	19.9	20.6	20.4	21.0	21.6
	8H	20.3	20.9	20.8	21.4	22.0	20.3	20.9	20.8	21.3	21.9

Maximum UGR = 22.1

4.2 Goniophotometer Test

Luminous Distribution Intensity Data

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	1835	1834	1836	1837	1838	1836	1835	1836	1838	1837	1836	1834	1835	1834	1836	1837	1838	1836	1835
5	1831	1828	1828	1826	1828	1829	1832	1829	1828	1826	1828	1828	1831	1828	1828	1826	1828	1829	1832
10	1805	1806	1806	1804	1804	1803	1805	1803	1804	1804	1806	1806	1805	1806	1806	1804	1804	1803	1805
15	1763	1762	1765	1767	1765	1763	1762	1763	1765	1767	1765	1762	1763	1762	1765	1767	1765	1763	1762
20	1709	1708	1706	1709	1709	1711	1709	1711	1709	1709	1706	1708	1709	1708	1706	1709	1709	1711	1709
25	1638	1638	1637	1637	1636	1638	1641	1638	1636	1637	1637	1638	1638	1638	1637	1637	1636	1638	1641
30	1549	1549	1551	1554	1552	1553	1554	1553	1552	1554	1551	1549	1549	1549	1551	1554	1552	1553	1554
35	1449	1447	1450	1455	1457	1457	1458	1457	1457	1455	1450	1447	1449	1447	1450	1455	1457	1457	1458
40	1339	1337	1340	1343	1345	1346	1352	1346	1345	1343	1340	1337	1339	1337	1340	1343	1345	1346	1352
45	1215	1215	1220	1223	1225	1224	1229	1224	1225	1223	1220	1215	1215	1215	1220	1223	1225	1224	1229
50	1083	1083	1088	1094	1096	1095	1098	1095	1096	1094	1088	1083	1083	1083	1088	1094	1096	1095	1098
55	948	946	949	954	956	959	961	959	956	954	949	946	948	946	949	954	956	959	961
60	806	806	807	811	810	812	816	812	810	811	807	806	806	806	807	811	810	812	816
65	660	659	661	664	663	663	666	663	663	664	661	659	660	659	661	664	663	663	666
70	516	513	513	515	513	513	516	513	513	515	513	513	516	513	513	515	513	513	516
75	374	371	370	369	367	367	369	367	367	369	370	371	374	371	370	369	367	367	369
80	237	236	235	233	229	227	229	227	229	233	235	236	237	236	235	233	229	227	229
85	113	111	110	108	106	104	104	104	106	108	110	111	113	111	110	108	106	104	104
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) γ (DEG)	285	300	315	330	345														
0	1836	1838	1837	1836	1834														
5	1829	1828	1826	1828	1828														
10	1803	1804	1804	1806	1806														
15	1763	1765	1767	1765	1762														
20	1711	1709	1709	1706	1708														
25	1638	1636	1637	1637	1638														
30	1553	1552	1554	1551	1549														
35	1457	1457	1455	1450	1447														
40	1346	1345	1343	1340	1337														
45	1224	1225	1223	1220	1215														
50	1095	1096	1094	1088	1083														
55	959	956	954	949	946														
60	812	810	811	807	806														
65	663	663	664	661	659														
70	513	513	515	513	513														
75	367	367	369	370	371														
80	227	229	233	235	236														
85	104	106	108	110	111														
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.	EZP2X4 @40W4000K	Sample ID	250117003-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	0.323	38.5	0.993	10.90
277.0	60	0.145	38.4	0.955	8.82

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*******