

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		6160
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	123.7
		110	125	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		49.8
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	10.31
			277V	11.90
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.994
			277V	0.973
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	5029±283	4816
		4 steps	5029±220	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥80		82.9
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥0		7
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%		78.0%
Discomfort Glare (UGR) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	20.1
		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		0.418
(Goniophotometer – Section 4.2)		Non-Worst Case		0.180
Power (Input Wattage – W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		49.8
(Goniophotometer – Section 4.2)		Non-Worst Case		48.6

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-20	EZP2X4 @50W5000K	-	250117003-S1
2	Goniophotometer Test	2025-01-20	EZP2X4 @50W5000K	-	250117003-S1
3	THD and PF Test	2025-01-20	EZP2X4 @50W5000K	-	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 @50W5000K, 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 @50W5000K	Sample ID	250117003-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

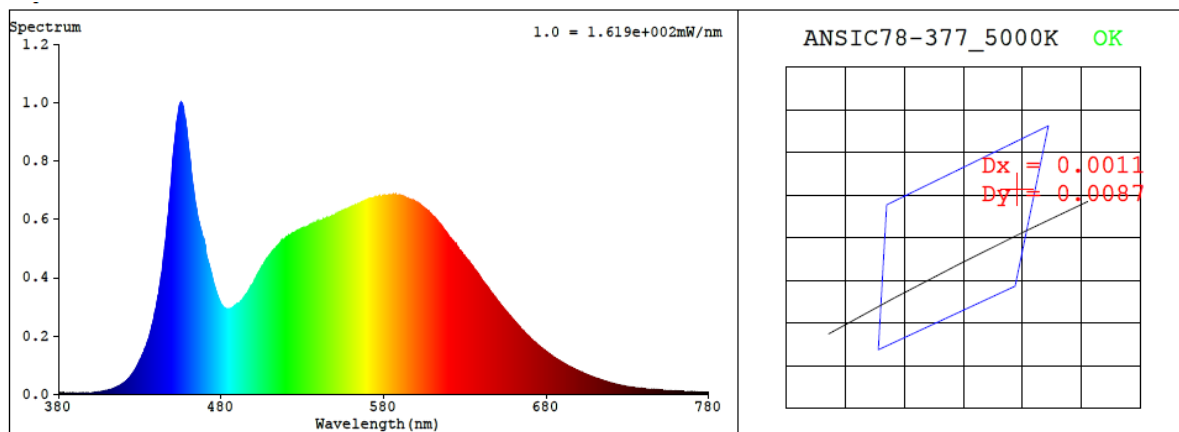
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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	0.418	49.8	0.994
277.0	60	0.180	48.6	0.973

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
4816	82.9	7	0.0039	83	93	-13%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3516$ $y = 0.3646$ / $u' = 0.2108$ $v' = 0.4918$ ($duv=3.89e-03$)

CCT= 4816K Prcp WL: $L_d=571.7nm$ Purity=14.9%

Peak WL: $L_p=455nm$ FWHM: $\approx 25.1nm$ Ratio: R=15.9% G=79.4% B=4.7%

Render Index: $R_a = 82.9$ AvgR = 75.7 TM30: $R_f=83$ $R_g=93$

EEL: 0.10160 A++ Highest

R1 =81	R2 =90	R3 =95	R4 =79	R5 =80	R6 =85	R7 =87
R8 =66	R9 =7	R10=76	R11=78	R12=56	R13=84	R14=98 R15=75

4.1 Integrating Sphere Test

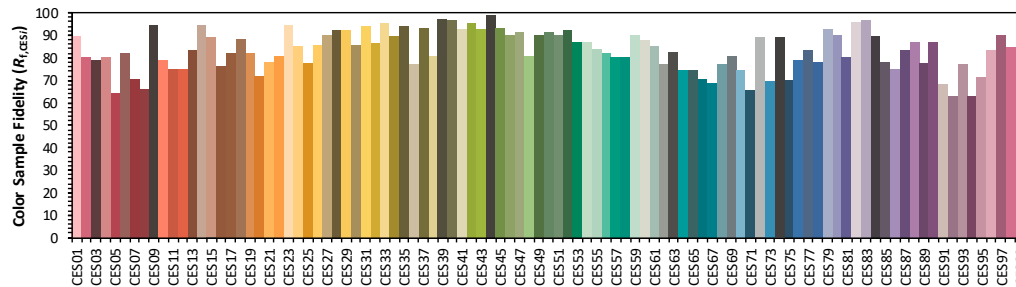
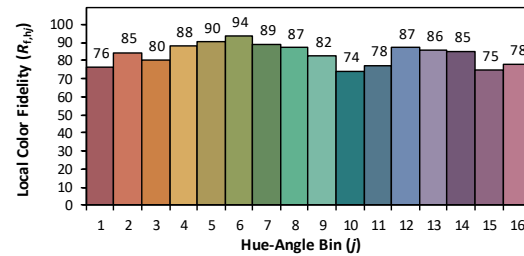
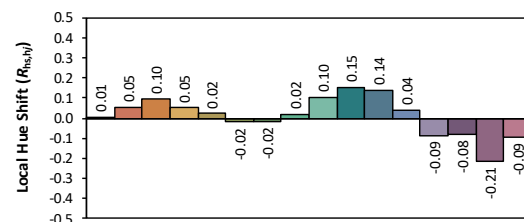
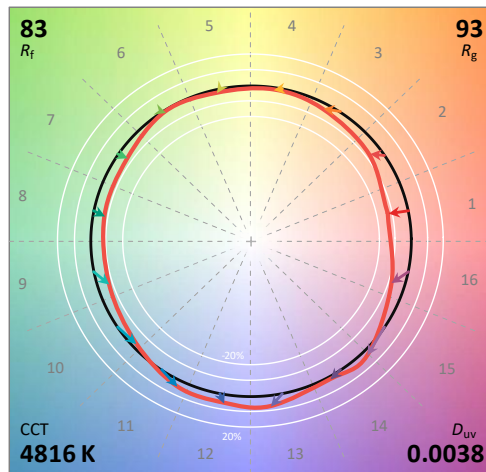
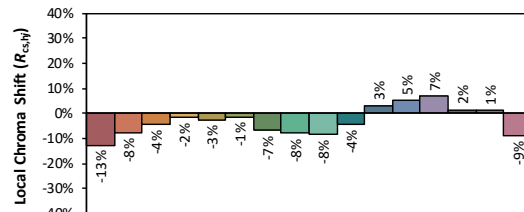
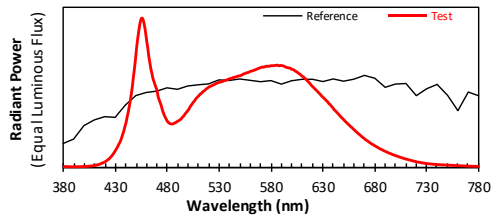
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/21

Model: EZP2X4 @50W5000K



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

x 0.3515
 y 0.3645
 u' 0.2108
 v' 0.4917

CIE 13.3-1995
(CRI)
 R_a 83
 R_g 7

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	5.30E-06	447	5.95E-04	514	5.05E-04	581	6.81E-04	648	3.36E-04	715	4.76E-05
381	5.60E-06	448	6.51E-04	515	5.11E-04	582	6.80E-04	649	3.29E-04	716	4.53E-05
382	5.10E-06	449	7.14E-04	516	5.15E-04	583	6.82E-04	650	3.22E-04	717	4.41E-05
383	6.60E-06	450	7.82E-04	517	5.22E-04	584	6.82E-04	651	3.14E-04	718	4.19E-05
384	4.30E-06	451	8.46E-04	518	5.28E-04	585	6.83E-04	652	3.07E-04	719	4.05E-05
385	4.70E-06	452	8.96E-04	519	5.31E-04	586	6.85E-04	653	3.01E-04	720	3.86E-05
386	4.90E-06	453	9.43E-04	520	5.39E-04	587	6.82E-04	654	2.93E-04	721	3.72E-05
387	4.50E-06	454	9.80E-04	521	5.41E-04	588	6.80E-04	655	2.87E-04	722	3.56E-05
388	3.60E-06	455	9.98E-04	522	5.44E-04	589	6.82E-04	656	2.81E-04	723	3.46E-05
389	4.40E-06	456	9.97E-04	523	5.47E-04	590	6.82E-04	657	2.73E-04	724	3.30E-05
390	4.30E-06	457	9.76E-04	524	5.52E-04	591	6.80E-04	658	2.68E-04	725	3.19E-05
391	4.30E-06	458	9.44E-04	525	5.54E-04	592	6.79E-04	659	2.61E-04	726	3.05E-05
392	4.00E-06	459	8.99E-04	526	5.58E-04	593	6.76E-04	660	2.54E-04	727	2.96E-05
393	5.00E-06	460	8.46E-04	527	5.62E-04	594	6.73E-04	661	2.48E-04	728	2.85E-05
394	4.80E-06	461	8.03E-04	528	5.64E-04	595	6.70E-04	662	2.41E-04	729	2.74E-05
395	4.90E-06	462	7.45E-04	529	5.67E-04	596	6.68E-04	663	2.35E-04	730	2.66E-05
396	4.80E-06	463	7.04E-04	530	5.70E-04	597	6.66E-04	664	2.29E-04	731	2.55E-05
397	5.50E-06	464	6.61E-04	531	5.71E-04	598	6.65E-04	665	2.23E-04	732	2.45E-05
398	5.30E-06	465	6.32E-04	532	5.73E-04	599	6.62E-04	666	2.18E-04	733	2.40E-05
399	5.90E-06	466	5.96E-04	533	5.75E-04	600	6.57E-04	667	2.11E-04	734	2.35E-05
400	5.60E-06	467	5.76E-04	534	5.78E-04	601	6.56E-04	668	2.05E-04	735	2.25E-05
401	6.20E-06	468	5.54E-04	535	5.82E-04	602	6.53E-04	669	2.00E-04	736	2.20E-05
402	6.30E-06	469	5.34E-04	536	5.82E-04	603	6.48E-04	670	1.94E-04	737	2.11E-05
403	7.20E-06	470	5.14E-04	537	5.84E-04	604	6.43E-04	671	1.88E-04	738	2.07E-05
404	7.70E-06	471	4.75E-04	538	5.88E-04	605	6.39E-04	672	1.83E-04	739	2.04E-05
405	8.70E-06	472	4.53E-04	539	5.90E-04	606	6.34E-04	673	1.79E-04	740	1.96E-05
406	9.50E-06	473	4.34E-04	540	5.94E-04	607	6.29E-04	674	1.74E-04	741	1.92E-05
407	9.70E-06	474	4.15E-04	541	5.95E-04	608	6.24E-04	675	1.68E-04	742	1.87E-05
408	1.14E-05	475	3.89E-04	542	5.96E-04	609	6.18E-04	676	1.64E-04	743	1.85E-05
409	1.29E-05	476	3.67E-04	543	6.01E-04	610	6.11E-04	677	1.59E-04	744	1.79E-05
410	1.32E-05	477	3.50E-04	544	6.02E-04	611	6.08E-04	678	1.54E-04	745	1.74E-05
411	1.53E-05	478	3.34E-04	545	6.04E-04	612	6.01E-04	679	1.51E-04	746	1.72E-05
412	1.63E-05	479	3.21E-04	546	6.05E-04	613	5.95E-04	680	1.46E-04	747	1.69E-05
413	1.83E-05	480	3.09E-04	547	6.07E-04	614	5.88E-04	681	1.43E-04	748	1.66E-05
414	2.02E-05	481	3.01E-04	548	6.11E-04	615	5.81E-04	682	1.38E-04	749	1.57E-05
415	2.30E-05	482	2.95E-04	549	6.12E-04	616	5.75E-04	683	1.35E-04	750	1.55E-05
416	2.59E-05	483	2.92E-04	550	6.13E-04	617	5.66E-04	684	1.30E-04	751	1.52E-05
417	2.85E-05	484	2.91E-04	551	6.16E-04	618	5.60E-04	685	1.26E-04	752	1.48E-05
418	3.15E-05	485	2.91E-04	552	6.19E-04	619	5.50E-04	686	1.23E-04	753	1.45E-05
419	3.45E-05	486	2.93E-04	553	6.24E-04	620	5.42E-04	687	1.19E-04	754	1.41E-05
420	3.88E-05	487	2.97E-04	554	6.26E-04	621	5.36E-04	688	1.16E-04	755	1.39E-05
421	4.27E-05	488	3.01E-04	555	6.29E-04	622	5.29E-04	689	1.12E-04	756	1.34E-05
422	4.85E-05	489	3.04E-04	556	6.32E-04	623	5.22E-04	690	1.09E-04	757	1.31E-05
423	5.34E-05	490	3.10E-04	557	6.34E-04	624	5.15E-04	691	1.06E-04	758	1.26E-05
424	5.97E-05	491	3.13E-04	558	6.36E-04	625	5.09E-04	692	1.02E-04	759	1.25E-05
425	6.71E-05	492	3.18E-04	559	6.38E-04	626	5.01E-04	693	9.95E-05	760	1.20E-05
426	7.50E-05	493	3.23E-04	560	6.43E-04	627	4.93E-04	694	9.61E-05	761	1.15E-05
427	8.34E-05	494	3.32E-04	561	6.44E-04	628	4.87E-04	695	9.36E-05	762	1.13E-05
428	9.35E-05	495	3.39E-04	562	6.46E-04	629	4.77E-04	696	9.11E-05	763	1.10E-05
429	1.04E-04	496	3.47E-04	563	6.49E-04	630	4.72E-04	697	8.76E-05	764	1.06E-05
430	1.16E-04	497	3.57E-04	564	6.52E-04	631	4.65E-04	698	8.45E-05	765	1.03E-05
431	1.27E-04	498	3.66E-04	565	6.53E-04	632	4.58E-04	699	8.26E-05	766	1.00E-05
432	1.39E-04	499	3.74E-04	566	6.57E-04	633	4.51E-04	700	8.00E-05	767	1.00E-05
433	1.54E-04	500	3.83E-04	567	6.60E-04	634	4.44E-04	701	7.76E-05	768	9.60E-06
434	1.67E-04	501	3.93E-04	568	6.62E-04	635	4.38E-04	702	7.52E-05	769	9.10E-06
435	1.82E-04	502	4.07E-04	569	6.66E-04	636	4.27E-04	703	7.22E-05	770	9.00E-06
436	2.03E-04	503	4.16E-04	570	6.68E-04	637	4.22E-04	704	7.01E-05	771	8.50E-06
437	2.24E-04	504	4.26E-04	571	6.70E-04	638	4.14E-04	705	6.75E-05	772	8.30E-06
438	2.46E-04	505	4.36E-04	572	6.72E-04	639	4.06E-04	706	6.54E-05	773	8.00E-06
439	2.75E-04	506	4.43E-04	573	6.71E-04	640	3.97E-04	707	6.31E-05	774	7.80E-06
440	2.98E-04	507	4.54E-04	574	6.73E-04	641	3.87E-04	708	6.10E-05	775	7.80E-06
441	3.33E-04	508	4.63E-04	575	6.77E-04	642	3.81E-04	709	5.87E-05	776	7.50E-06
442	3.64E-04	509	4.70E-04	576	6.76E-04	643	3.74E-04	710	5.66E-05	777	7.20E-06
443	4.02E-04	510	4.78E-04	577	6.78E-04	644	3.66E-04	711	5.51E-05	778	7.10E-06
444	4.41E-04	511	4.85E-04	578	6.77E-04	645	3.59E-04	712	5.32E-05	779	7.10E-06
445	4.85E-04	512	4.93E-04	579	6.79E-04	646	3.51E-04	713	5.09E-05	780	7.10E-06
446	5.33E-04	513	4.97E-04	580	6.80E-04	647	3.43E-04	714	4.92E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	EZP2X4 @50W5000K	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	0.418	49.8	0.994
NON-WORST CASE	277.0	60	0.180	48.6	0.973

Test Result

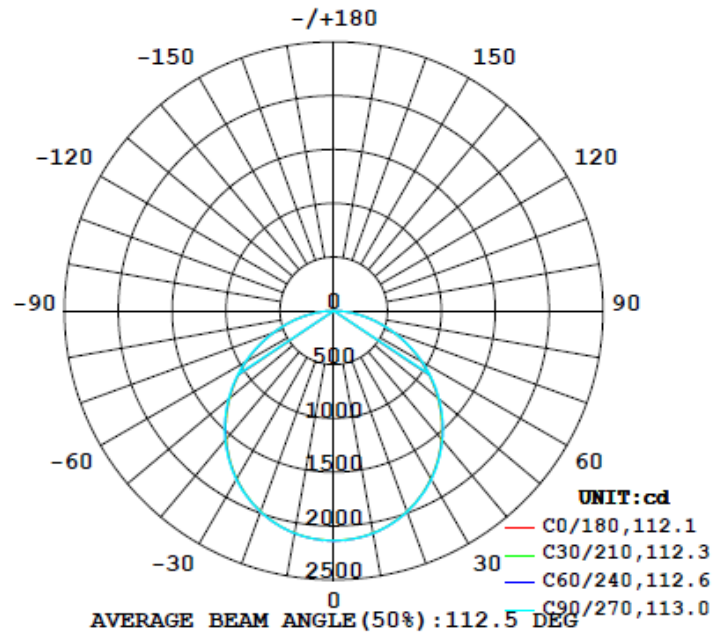
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement (0°-60°)
	C0-180	C90-270	C0-180	C90-270		
6160	164.5	164.0	112.1	113.0	123.7	78.0%

UGR		Spacing Criterion	
Crosswise	Endwise	(0°-180°)	(90°-270°)
20.1	20.1	1.26	1.26

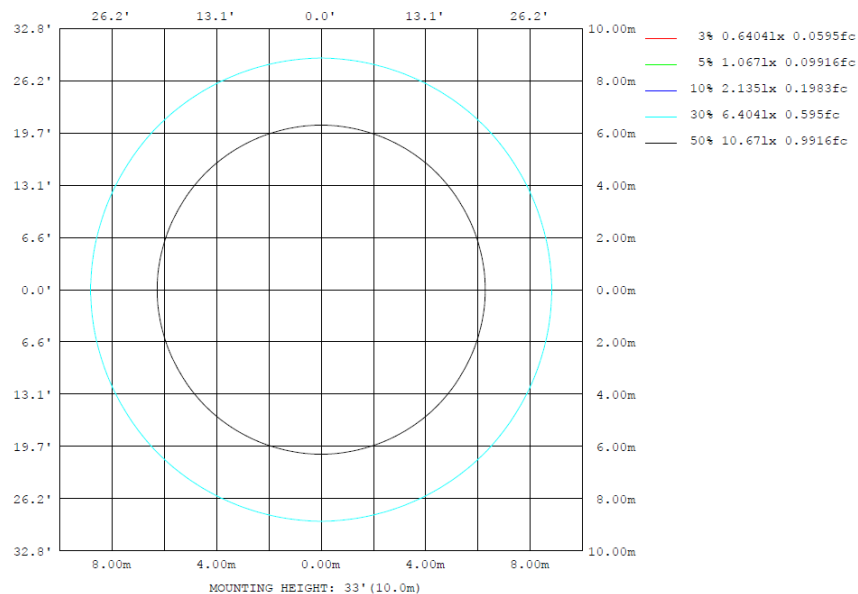
4.2 Goniophotometer Test

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	2099	2100	2100	2100	2099	2100	2100	2100	0- 10	202.1	202.1	3.28, 3.28
20	1988	1988	1990	1988	1988	1988	1990	1988	10- 20	579.2	781.4	12.7, 12.7
30	1803	1807	1813	1807	1803	1807	1813	1807	20- 30	877.9	1659	26.9, 26.9
40	1558	1565	1570	1565	1558	1565	1570	1565	30- 40	1057	2717	44.1, 44.1
50	1261	1273	1280	1273	1261	1273	1280	1273	40- 50	1096	3813	61.9, 61.9
60	937.9	944.2	949.6	944.2	937.9	944.2	949.6	944.2	50- 60	990.9	4804	78, 78
70	599.9	599.2	600.1	599.2	599.9	599.2	600.1	599.2	60- 70	762.3	5566	90.3, 90.3
80	276.3	270.4	265.9	270.4	276.3	270.4	265.9	270.4	70- 80	454.6	6021	97.7, 97.7
90	0	0	0	0	0	0	0	0	80- 90	139.9	6160	100, 100
100	0	0	0	0	0	0	0	0	90-100	0	6160	100, 100
110	0	0	0	0	0	0	0	0	100-110	0	6160	100, 100
120	0	0	0	0	0	0	0	0	110-120	0	6160	100, 100
130	0	0	0	0	0	0	0	0	120-130	0	6160	100, 100
140	0	0	0	0	0	0	0	0	130-140	0	6160	100, 100
150	0	0	0	0	0	0	0	0	140-150	0	6160	100, 100
160	0	0	0	0	0	0	0	0	150-160	0	6160	100, 100
170	0	0	0	0	0	0	0	0	160-170	0	6160	100, 100
180	0	0	0	0	0	0	0	0	170-180	0	6160	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

	Zonal (lm)		Total (lm)	Percent
0-10	202.12	0-10	202.12	3.28%
10-20	579.23	0-20	781.35	12.68%
20-30	877.86	0-30	1659.21	26.93%
30-40	1057.49	0-40	2716.70	44.10%
40-50	1095.93	0-50	3812.63	61.89%
50-60	990.95	0-60	4803.58	77.97%
60-70	762.33	0-70	5565.91	90.35%
70-80	454.63	0-80	6020.54	97.73%
80-90	139.94	0-90	6160.48	100.00%
90-100	0.00	0-100	6160.48	100.00%
100-110	0.00	0-110	6160.48	100.00%
110-120	0.00	0-120	6160.48	100.00%
120-130	0.00	0-130	6160.48	100.00%
130-140	0.00	0-140	6160.48	100.00%
140-150	0.00	0-150	6160.48	100.00%
150-160	0.00	0-160	6160.48	100.00%
160-170	0.00	0-170	6160.48	100.00%
170-180	0.00	0-180	6160.48	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	14.5
	8H	12.6	13.9	13.0	14.2	14.6	12.6	13.8	13.0	14.2	14.6
	12H	12.7	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	12.9	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	15.1	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	15.0	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	15.2	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	15.5	17.2	15.9	17.5	17.8	15.6	17.2	15.9	17.5	17.9
	3H	17.4	18.9	17.8	19.2	19.6	17.4	18.9	17.8	19.3	19.6
	4H	18.1	19.5	18.5	19.9	20.3	18.1	19.6	18.5	19.9	20.3
	6H	18.7	20.0	19.1	20.4	20.8	18.7	20.0	19.1	20.4	20.8
	8H	18.9	20.2	19.3	20.5	20.9	18.9	20.1	19.3	20.5	20.9
	12H	19.0	20.3	19.5	20.6	21.1	19.0	20.2	19.4	20.6	21.0
4H	2H	16.2	17.6	16.6	17.9	18.3	16.2	17.6	16.6	18.0	18.4
	3H	18.3	19.5	18.7	19.9	20.3	18.3	19.5	18.7	19.9	20.3
	4H	19.1	20.2	19.6	20.6	21.1	19.2	20.2	19.6	20.6	21.1
	6H	19.9	20.8	20.3	21.2	21.7	19.8	20.8	20.3	21.2	21.7
	8H	20.1	21.0	20.6	21.4	21.9	20.1	21.0	20.5	21.4	21.9
	12H	20.3	21.1	20.8	21.6	22.1	20.3	21.1	20.7	21.5	22.0
8H	4H	19.5	20.4	20.0	20.8	21.3	19.5	20.4	20.0	20.8	21.3
	6H	20.3	21.1	20.8	21.6	22.0	20.3	21.0	20.8	21.5	22.0
	8H	20.7	21.3	21.2	21.9	22.3	20.6	21.3	21.1	21.8	22.3
	12H	21.0	21.6	21.5	22.1	22.6	20.9	21.5	21.4	22.0	22.5
12H	4H	19.5	20.3	20.0	20.8	21.3	19.5	20.3	20.0	20.8	21.3
	6H	20.4	21.1	20.9	21.5	22.1	20.4	21.1	20.9	21.5	22.1
	8H	20.8	21.4	21.3	21.9	22.5	20.8	21.4	21.3	21.8	22.4
Maximum UGR = 22.6											

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	2135	2134	2133	2136	2140	2137	2136	2137	2140	2136	2133	2134	2135	2134	2133	2136	2140	2137	2136
5	2126	2126	2125	2127	2127	2127	2127	2127	2127	2127	2125	2126	2126	2126	2125	2127	2127	2127	2127
10	2099	2099	2095	2100	2100	2100	2100	2100	2100	2100	2095	2099	2099	2099	2095	2100	2100	2100	2100
15	2051	2051	2050	2053	2053	2054	2054	2054	2053	2053	2050	2051	2051	2051	2050	2053	2053	2054	2054
20	1988	1985	1984	1988	1989	1989	1990	1989	1989	1988	1984	1985	1988	1985	1984	1988	1989	1989	1990
25	1905	1903	1901	1905	1904	1907	1908	1907	1904	1905	1901	1903	1905	1903	1901	1905	1904	1907	1908
30	1803	1803	1801	1807	1808	1809	1813	1809	1808	1807	1801	1803	1803	1803	1801	1807	1808	1809	1813
35	1687	1685	1686	1693	1696	1695	1697	1695	1696	1693	1686	1685	1687	1685	1686	1693	1696	1695	1697
40	1558	1555	1557	1565	1565	1567	1570	1567	1565	1565	1557	1555	1558	1555	1557	1565	1565	1567	1570
45	1413	1414	1415	1424	1425	1426	1431	1426	1425	1424	1415	1414	1413	1414	1415	1424	1425	1426	1431
50	1261	1262	1264	1273	1274	1275	1280	1275	1274	1273	1264	1262	1261	1262	1264	1273	1274	1275	1280
55	1103	1101	1103	1112	1112	1114	1119	1114	1112	1112	1103	1101	1103	1101	1103	1112	1112	1114	1119
60	938	935	938	944	944	946	950	946	944	944	938	935	938	935	938	944	944	946	950
65	768	768	767	772	771	772	776	772	771	772	767	768	768	768	767	772	771	772	776
70	600	598	597	599	597	597	600	597	597	599	597	598	600	598	597	599	597	597	600
75	435	431	430	430	427	426	428	426	427	430	430	431	435	431	430	430	427	426	428
80	276	274	272	270	267	265	266	265	267	270	272	274	276	274	272	270	267	265	266
85	131	130	127	125	123	121	121	121	123	125	127	130	131	130	127	125	123	121	121
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	2137	2140	2136	2133	2134														
5	2127	2127	2127	2125	2126														
10	2100	2100	2100	2095	2099														
15	2054	2053	2053	2050	2051														
20	1989	1989	1988	1984	1985														
25	1907	1904	1905	1901	1903														
30	1809	1808	1807	1801	1803														
35	1695	1696	1693	1686	1685														
40	1567	1565	1565	1557	1555														
45	1426	1425	1424	1415	1414														
50	1275	1274	1273	1264	1262														
55	1114	1112	1112	1103	1101														
60	946	944	944	938	935														
65	772	771	772	767	768														
70	597	597	599	597	598														
75	426	427	430	430	431														
80	265	267	270	272	274														
85	121	123	125	127	130														
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 @50W5000K	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	0.418	49.8	0.994	10.31
277.0	60	0.180	48.6	0.973	11.90

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*****