

## Photometric Test Report

### Relevant Standards

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

Prepared For

**RAB Lighting Inc.**

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Prepared By

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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		5182
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	129.2
		110	125	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		40.1
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	10.27
			277V	8.68
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.994
			277V	0.960
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	5029±283	4813
		4 steps	5029±220	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥80		83.0
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	19.5
		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		0.336
(Goniophotometer – Section 4.2)		Non-Worst Case		0.150
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		40.1
(Goniophotometer – Section 4.2)		Non-Worst Case		40.0

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-20	EZP2X4 @40W5000K	-	250117003-S1
2	Goniophotometer Test	2025-01-20	EZP2X4 @40W5000K	-	250117003-S1
3	THD and PF Test	2025-01-20	EZP2X4 @40W5000K	-	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 @40W5000K, color tunable from 3500K, 4000K and 5000K.

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

Photos of Luminaire Characteristics



## 4.0 LM-79 Measurement and Test Results

### 4.1 Integrating Sphere Test

<b>Model No.</b>	EZP2X4 @40W5000K	<b>Sample ID</b>	250117003-S1
<b>Operate time (Min.)</b>	10	<b>Stabilization time (Min.)</b>	60
<b>Temperature (°C)</b>	25.4	<b>Humidity (%RH)</b>	41.0

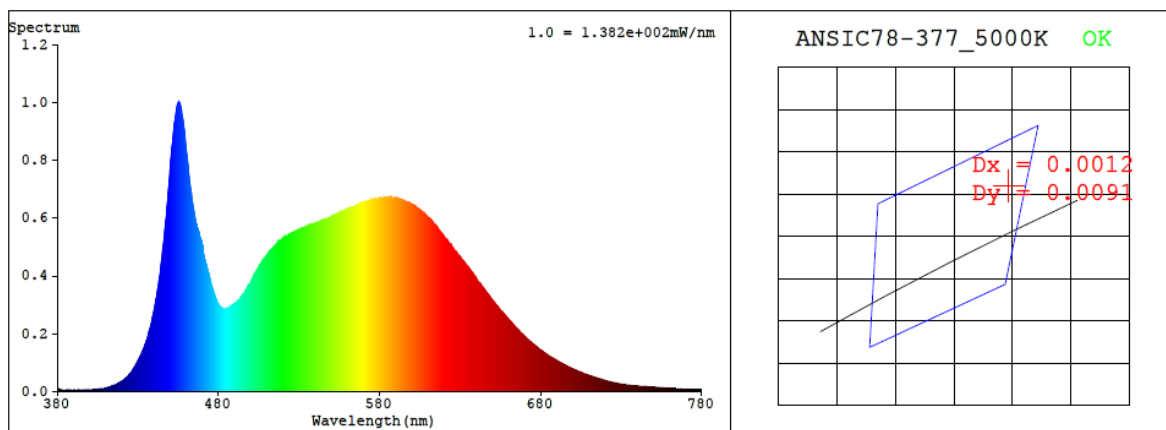
<b>Test Method</b>
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere.</p> <p>The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ±0.2 percent under load.</p> <p>The sample was measured using 4π geometry and operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780nm.</p>

#### Test Result

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
120.0	60	0.336	40.1	0.994
277.0	60	0.150	40.0	0.960

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
4813	83.0	7	0.0040	83	93	-13%

## 4.1 Integrating Sphere Test



### Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.3518$   $y = 0.3650$  /  $u' = 0.2108$   $v' = 0.4920$  ( $duv=4.00e-03$ )

CCT= 4813K Prcp WL:  $L_d=571.7nm$  Purity=15.1%

Peak WL:  $L_p=455nm$  FWHM:  $\approx 24.6nm$  Ratio: R=15.9% G=79.4% B=4.7%

Render Index:  $R_a = 83.0$  AvgR = 75.8 TM30:  $R_f=83$   $R_g=93$

EEL: 0.09734 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

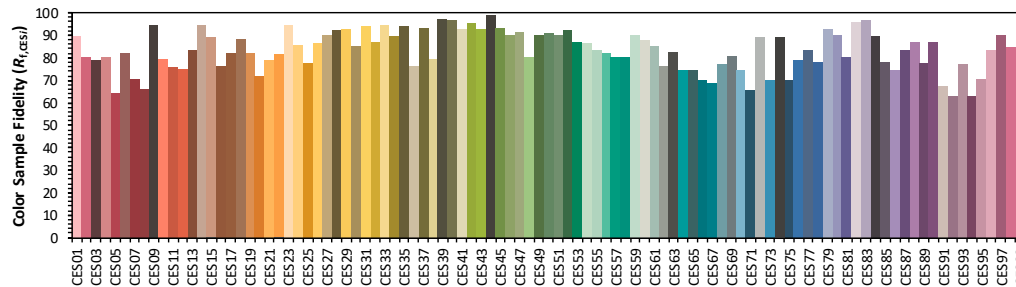
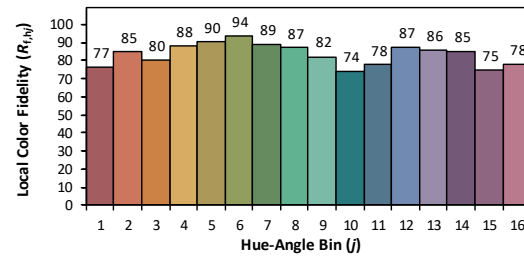
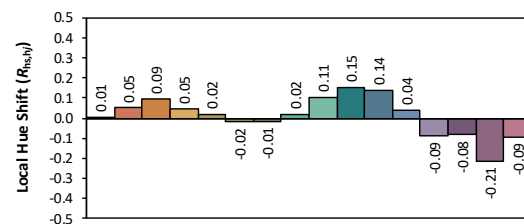
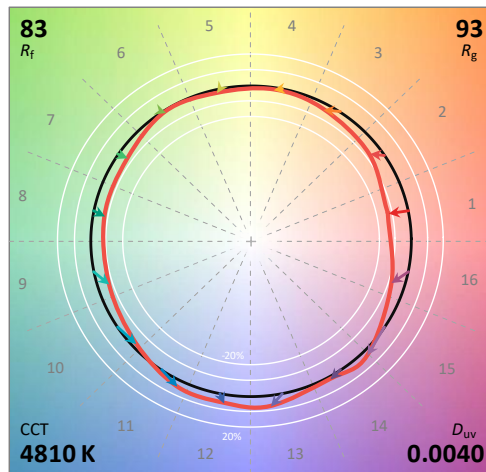
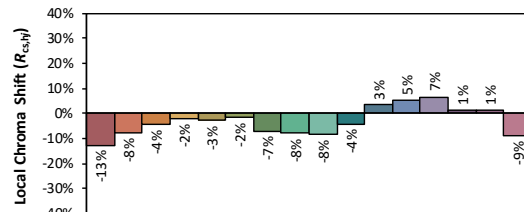
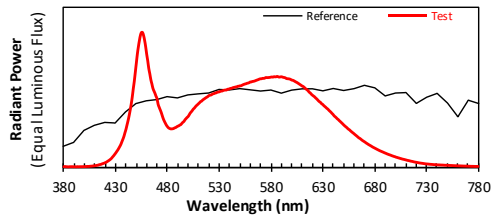
### ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/21

Model: EZP2X4 @40W5000K



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

$x$  0.3518  
 $y$  0.3649  
 $u'$  0.2108  
 $v'$  0.4920

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	4.70E-06	447	5.79E-04	514	4.98E-04	581	6.69E-04	648	3.32E-04	715	4.61E-05
381	6.30E-06	448	6.36E-04	515	5.04E-04	582	6.68E-04	649	3.24E-04	716	4.46E-05
382	4.70E-06	449	7.04E-04	516	5.09E-04	583	6.71E-04	650	3.17E-04	717	4.30E-05
383	4.70E-06	450	7.73E-04	517	5.14E-04	584	6.70E-04	651	3.09E-04	718	4.08E-05
384	3.60E-06	451	8.40E-04	518	5.19E-04	585	6.70E-04	652	3.02E-04	719	3.92E-05
385	4.10E-06	452	8.94E-04	519	5.24E-04	586	6.73E-04	653	2.96E-04	720	3.78E-05
386	4.90E-06	453	9.40E-04	520	5.31E-04	587	6.70E-04	654	2.89E-04	721	3.65E-05
387	4.50E-06	454	9.79E-04	521	5.34E-04	588	6.68E-04	655	2.82E-04	722	3.50E-05
388	5.20E-06	455	9.98E-04	522	5.35E-04	589	6.69E-04	656	2.77E-04	723	3.33E-05
389	3.90E-06	456	9.98E-04	523	5.40E-04	590	6.70E-04	657	2.69E-04	724	3.21E-05
390	4.70E-06	457	9.76E-04	524	5.44E-04	591	6.69E-04	658	2.63E-04	725	3.09E-05
391	4.40E-06	458	9.40E-04	525	5.46E-04	592	6.66E-04	659	2.57E-04	726	2.99E-05
392	3.70E-06	459	8.93E-04	526	5.50E-04	593	6.65E-04	660	2.51E-04	727	2.88E-05
393	5.10E-06	460	8.37E-04	527	5.51E-04	594	6.62E-04	661	2.44E-04	728	2.75E-05
394	4.20E-06	461	7.89E-04	528	5.55E-04	595	6.57E-04	662	2.38E-04	729	2.64E-05
395	4.70E-06	462	7.32E-04	529	5.57E-04	596	6.56E-04	663	2.31E-04	730	2.55E-05
396	4.90E-06	463	6.93E-04	530	5.59E-04	597	6.55E-04	664	2.25E-04	731	2.47E-05
397	4.90E-06	464	6.49E-04	531	5.62E-04	598	6.54E-04	665	2.18E-04	732	2.42E-05
398	5.00E-06	465	6.18E-04	532	5.65E-04	599	6.51E-04	666	2.14E-04	733	2.32E-05
399	5.10E-06	466	5.85E-04	533	5.65E-04	600	6.46E-04	667	2.08E-04	734	2.24E-05
400	5.50E-06	467	5.66E-04	534	5.69E-04	601	6.45E-04	668	2.01E-04	735	2.20E-05
401	6.20E-06	468	5.48E-04	535	5.71E-04	602	6.42E-04	669	1.96E-04	736	2.12E-05
402	6.40E-06	469	5.26E-04	536	5.73E-04	603	6.37E-04	670	1.91E-04	737	2.06E-05
403	7.10E-06	470	5.08E-04	537	5.72E-04	604	6.33E-04	671	1.86E-04	738	2.00E-05
404	6.80E-06	471	4.68E-04	538	5.78E-04	605	6.29E-04	672	1.80E-04	739	1.96E-05
405	7.80E-06	472	4.46E-04	539	5.79E-04	606	6.24E-04	673	1.76E-04	740	1.91E-05
406	8.60E-06	473	4.27E-04	540	5.81E-04	607	6.19E-04	674	1.70E-04	741	1.85E-05
407	9.10E-06	474	4.07E-04	541	5.84E-04	608	6.13E-04	675	1.66E-04	742	1.82E-05
408	1.02E-05	475	3.83E-04	542	5.85E-04	609	6.08E-04	676	1.61E-04	743	1.79E-05
409	1.09E-05	476	3.60E-04	543	5.89E-04	610	6.03E-04	677	1.57E-04	744	1.73E-05
410	1.21E-05	477	3.43E-04	544	5.91E-04	611	5.99E-04	678	1.52E-04	745	1.71E-05
411	1.34E-05	478	3.27E-04	545	5.93E-04	612	5.93E-04	679	1.48E-04	746	1.68E-05
412	1.49E-05	479	3.13E-04	546	5.95E-04	613	5.86E-04	680	1.44E-04	747	1.62E-05
413	1.63E-05	480	3.02E-04	547	5.96E-04	614	5.79E-04	681	1.40E-04	748	1.57E-05
414	1.92E-05	481	2.93E-04	548	6.00E-04	615	5.73E-04	682	1.36E-04	749	1.54E-05
415	2.08E-05	482	2.88E-04	549	6.01E-04	616	5.66E-04	683	1.31E-04	750	1.52E-05
416	2.26E-05	483	2.85E-04	550	6.03E-04	617	5.56E-04	684	1.28E-04	751	1.48E-05
417	2.60E-05	484	2.85E-04	551	6.04E-04	618	5.51E-04	685	1.24E-04	752	1.42E-05
418	2.86E-05	485	2.86E-04	552	6.07E-04	619	5.42E-04	686	1.20E-04	753	1.40E-05
419	3.12E-05	486	2.88E-04	553	6.11E-04	620	5.35E-04	687	1.17E-04	754	1.37E-05
420	3.49E-05	487	2.92E-04	554	6.14E-04	621	5.29E-04	688	1.14E-04	755	1.34E-05
421	3.82E-05	488	2.95E-04	555	6.17E-04	622	5.23E-04	689	1.10E-04	756	1.28E-05
422	4.35E-05	489	3.00E-04	556	6.19E-04	623	5.15E-04	690	1.07E-04	757	1.26E-05
423	4.84E-05	490	3.04E-04	557	6.22E-04	624	5.08E-04	691	1.04E-04	758	1.21E-05
424	5.38E-05	491	3.08E-04	558	6.24E-04	625	5.01E-04	692	1.00E-04	759	1.19E-05
425	5.98E-05	492	3.13E-04	559	6.27E-04	626	4.92E-04	693	9.73E-05	760	1.16E-05
426	6.67E-05	493	3.17E-04	560	6.32E-04	627	4.85E-04	694	9.44E-05	761	1.13E-05
427	7.64E-05	494	3.26E-04	561	6.32E-04	628	4.80E-04	695	9.17E-05	762	1.10E-05
428	8.49E-05	495	3.34E-04	562	6.35E-04	629	4.71E-04	696	8.89E-05	763	1.07E-05
429	9.52E-05	496	3.40E-04	563	6.37E-04	630	4.66E-04	697	8.57E-05	764	1.03E-05
430	1.05E-04	497	3.52E-04	564	6.39E-04	631	4.58E-04	698	8.31E-05	765	1.00E-05
431	1.17E-04	498	3.61E-04	565	6.41E-04	632	4.51E-04	699	8.04E-05	766	9.70E-06
432	1.28E-04	499	3.69E-04	566	6.45E-04	633	4.44E-04	700	7.82E-05	767	9.50E-06
433	1.41E-04	500	3.76E-04	567	6.47E-04	634	4.37E-04	701	7.49E-05	768	9.20E-06
434	1.54E-04	501	3.88E-04	568	6.50E-04	635	4.31E-04	702	7.31E-05	769	8.90E-06
435	1.69E-04	502	4.01E-04	569	6.54E-04	636	4.23E-04	703	7.04E-05	770	8.60E-06
436	1.89E-04	503	4.10E-04	570	6.56E-04	637	4.15E-04	704	6.84E-05	771	8.50E-06
437	2.08E-04	504	4.20E-04	571	6.56E-04	638	4.08E-04	705	6.57E-05	772	8.10E-06
438	2.29E-04	505	4.31E-04	572	6.59E-04	639	3.99E-04	706	6.38E-05	773	7.70E-06
439	2.56E-04	506	4.38E-04	573	6.59E-04	640	3.92E-04	707	6.12E-05	774	7.60E-06
440	2.82E-04	507	4.48E-04	574	6.60E-04	641	3.82E-04	708	5.96E-05	775	7.50E-06
441	3.14E-04	508	4.57E-04	575	6.65E-04	642	3.75E-04	709	5.77E-05	776	7.20E-06
442	3.46E-04	509	4.63E-04	576	6.64E-04	643	3.68E-04	710	5.57E-05	777	6.90E-06
443	3.81E-04	510	4.71E-04	577	6.64E-04	644	3.60E-04	711	5.36E-05	778	6.80E-06
444	4.22E-04	511	4.78E-04	578	6.65E-04	645	3.54E-04	712	5.15E-05	779	6.80E-06
445	4.66E-04	512	4.86E-04	579	6.66E-04	646	3.46E-04	713	5.01E-05	780	6.80E-06
446	5.17E-04	513	4.90E-04	580	6.68E-04	647	3.39E-04	714	4.82E-05	N/A	N/A



## 4.0 LM-79 Measurement and Test Results

### 4.2 Goniophotometer Test

<b>Model No.</b>	EZP2X4 @40W5000K	<b>Sample ID</b>	250117003-S1
<b>Operate time (Min.)</b>	30	<b>Stabilization time (Min.)</b>	60
<b>Temperature (°C)</b>	24.8	<b>Humidity (%RH)</b>	41.3

<b>Test Method</b>
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using a type C goniophotometer and software.</p> <p>The ambient temperature shall be maintained at <math>25 \pm 1^\circ\text{C}</math>, 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 <math>\pm 0.2</math> 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 <math>1.0^\circ</math> vertical intervals and <math>15^\circ</math> horizontal intervals.</p>

### Test Conditions

Condition	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
<b>WORST CASE</b>	120.0	60	0.336	40.1	0.994
<b>NON-WORST CASE</b>	277.0	60	0.150	40.0	0.960

### Test Result

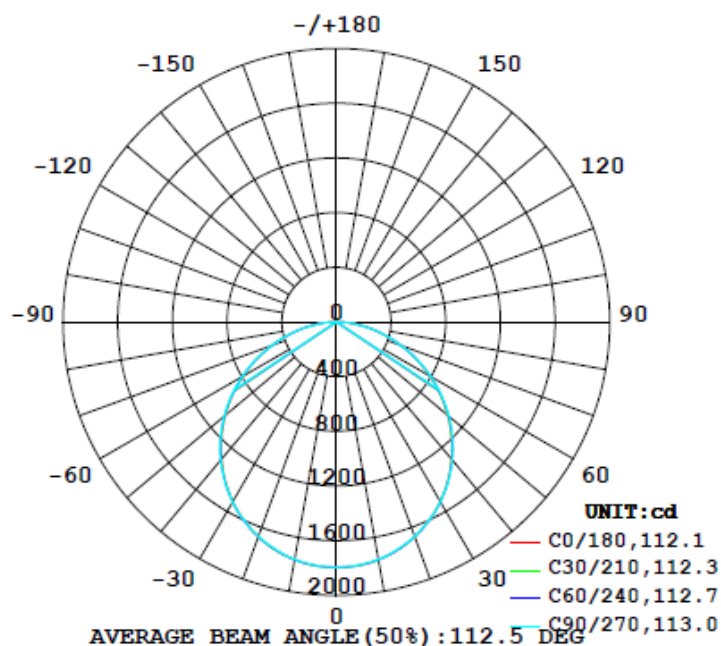
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement
	C0-180	C90-270	C0-180	C90-270		(0°-60°)
5182	164.5	164.0	112.1	112.8	129.2	78.0%

UGR		Spacing Criterion	
Crosswise	Endwise	(0°-180°)	(90°-270°)
19.5	19.5	1.26	1.26

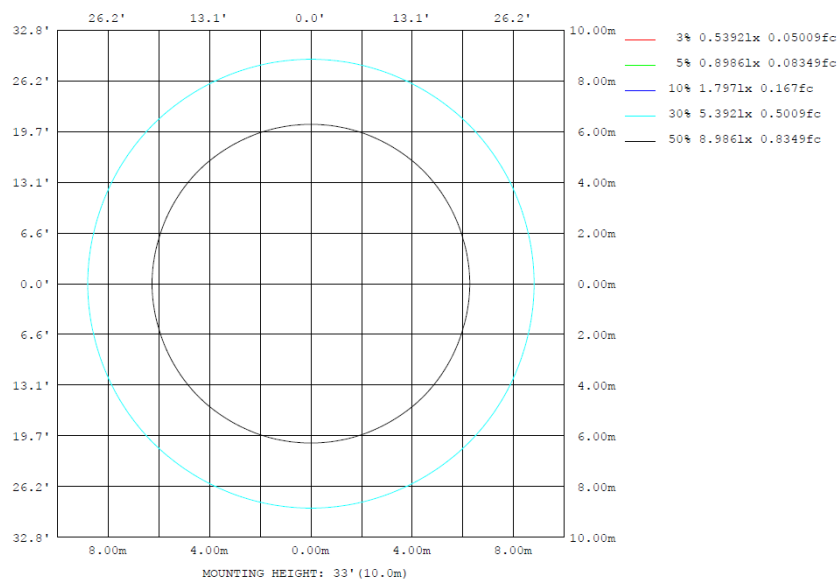
## 4.2 Goniophotometer Test

### 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	1764	1766	1762	1766	1764	1766	1762	1766	0- 10	170.0	170.0	3.28, 3.28
20	1675	1676	1671	1676	1675	1676	1671	1676	10- 20	487.2	657.2	12.7, 12.7
30	1517	1520	1520	1520	1517	1520	1520	1520	20- 30	738.4	1396	26.9, 26.9
40	1309	1318	1318	1318	1309	1318	1318	1318	30- 40	889.5	2285	44.1, 44.1
50	1061	1071	1075	1071	1061	1071	1075	1071	40- 50	921.7	3207	61.9, 61.9
60	788.1	794.7	796.3	794.7	788.1	794.7	796.3	794.7	50- 60	833.5	4040	78.78
70	505.1	505.0	504.7	505.0	505.1	505.0	504.7	505.0	60- 70	641.2	4681	90.3, 90.3
80	232.1	227.6	223.5	227.6	232.1	227.6	223.5	227.6	70- 80	382.4	5064	97.7, 97.7
90	0	0	0	0	0	0	0	0	80- 90	117.9	5182	100, 100
100	0	0	0	0	0	0	0	0	90-100	0	5182	100, 100
110	0	0	0	0	0	0	0	0	100-110	0	5182	100, 100
120	0	0	0	0	0	0	0	0	110-120	0	5182	100, 100
130	0	0	0	0	0	0	0	0	120-130	0	5182	100, 100
140	0	0	0	0	0	0	0	0	130-140	0	5182	100, 100
150	0	0	0	0	0	0	0	0	140-150	0	5182	100, 100
160	0	0	0	0	0	0	0	0	150-160	0	5182	100, 100
170	0	0	0	0	0	0	0	0	160-170	0	5182	100, 100
180	0	0	0	0	0	0	0	0	170-180	0	5182	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

	Zonal (lm)		Total (lm)	Percent
0-10	169.99	0-10	169.99	3.28%
10-20	487.21	0-20	657.20	12.68%
20-30	738.40	0-30	1395.60	26.93%
30-40	889.47	0-40	2285.07	44.10%
40-50	921.68	0-50	3206.75	61.89%
50-60	833.51	0-60	4040.26	77.97%
60-70	641.19	0-70	4681.45	90.35%
70-80	382.40	0-80	5063.85	97.73%
80-90	117.88	0-90	5181.73	100.00%
90-100	0.00	0-100	5181.73	100.00%
100-110	0.00	0-110	5181.73	100.00%
110-120	0.00	0-120	5181.73	100.00%
120-130	0.00	0-130	5181.73	100.00%
130-140	0.00	0-140	5181.73	100.00%
140-150	0.00	0-150	5181.73	100.00%
150-160	0.00	0-160	5181.73	100.00%
160-170	0.00	0-170	5181.73	100.00%
170-180	0.00	0-180	5181.73	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	11.5
	3H	11.1	12.6	11.5	12.9	13.3	11.1	12.6	11.5	12.9	13.3
	4H	11.8	13.2	12.2	13.6	14.0	11.8	13.2	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	12.7	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	12.8	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	14.7	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	15.0	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	14.9	16.6	15.3	16.9	17.2	15.0	16.6	15.3	16.9	17.2
	3H	16.8	18.3	17.2	18.6	19.0	16.8	18.3	17.2	18.6	19.0
	4H	17.5	18.9	17.9	19.3	19.7	17.5	18.9	17.9	19.3	19.7
	6H	18.1	19.4	18.5	19.8	20.2	18.1	19.4	18.5	19.8	20.1
	8H	18.3	19.6	18.7	19.9	20.3	18.3	19.5	18.7	19.9	20.3
	12H	18.4	19.7	18.9	20.0	20.5	18.4	19.6	18.8	20.0	20.4
4H	2H	15.6	17.0	16.0	17.3	17.7	15.6	17.0	16.0	17.4	17.8
	3H	17.7	18.9	18.1	19.3	19.7	17.7	18.9	18.1	19.3	19.7
	4H	18.5	19.6	19.0	20.0	20.5	18.5	19.6	19.0	20.0	20.5
	6H	19.3	20.2	19.7	20.6	21.1	19.2	20.2	19.7	20.6	21.1
	8H	19.5	20.4	20.0	20.9	21.3	19.5	20.4	19.9	20.8	21.3
	12H	19.7	20.5	20.2	21.0	21.5	19.7	20.4	20.1	20.9	21.4
8H	4H	18.9	19.8	19.4	20.2	20.7	18.9	19.8	19.4	20.2	20.7
	6H	19.7	20.5	20.2	21.0	21.4	19.7	20.4	20.2	20.9	21.4
	8H	20.1	20.7	20.6	21.3	21.7	20.0	20.7	20.5	21.2	21.7
	12H	20.4	21.0	20.9	21.5	22.0	20.3	20.9	20.8	21.4	21.9
12H	4H	18.9	19.7	19.4	20.2	20.7	18.9	19.7	19.4	20.2	20.7
	6H	19.8	20.5	20.3	20.9	21.5	19.8	20.5	20.3	20.9	21.5
	8H	20.2	20.8	20.7	21.3	21.9	20.2	20.7	20.7	21.2	21.8

Maximum UGR = 22.0

## 4.2 Goniophotometer Test

### Luminous Distribution Intensity Data

Table--1

UNIT: cd

C (DEG) γ	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	1797	1793	1797	1799	1794	1796	1795	1796	1794	1799	1797	1793	1797	1793	1797	1799	1794	1796	1795
5	1790	1788	1787	1792	1789	1787	1786	1787	1789	1792	1787	1788	1790	1788	1787	1792	1789	1787	1786
10	1764	1767	1765	1766	1767	1766	1762	1766	1767	1766	1765	1767	1764	1767	1765	1766	1767	1766	1762
15	1727	1725	1728	1728	1725	1727	1725	1727	1728	1728	1725	1727	1725	1728	1728	1725	1727	1725	1725
20	1675	1670	1670	1676	1671	1670	1671	1670	1671	1676	1670	1670	1675	1670	1670	1676	1671	1670	1671
25	1602	1601	1601	1605	1605	1603	1602	1603	1605	1605	1601	1601	1602	1601	1601	1605	1605	1603	1602
30	1517	1516	1518	1520	1520	1522	1520	1522	1520	1520	1518	1516	1517	1516	1518	1520	1520	1522	1520
35	1420	1416	1421	1425	1423	1424	1427	1424	1423	1425	1421	1416	1420	1416	1421	1425	1423	1424	1427
40	1309	1308	1310	1318	1317	1317	1318	1317	1318	1310	1308	1309	1308	1310	1318	1317	1317	1318	1318
45	1187	1189	1192	1197	1198	1199	1201	1199	1198	1197	1192	1189	1187	1189	1192	1197	1198	1199	1201
50	1061	1060	1066	1071	1070	1072	1075	1072	1070	1071	1066	1060	1061	1060	1066	1071	1070	1072	1075
55	929	925	929	937	935	935	939	935	935	937	929	925	929	925	929	937	935	935	939
60	788	788	789	795	795	795	796	795	795	795	789	788	788	788	789	795	795	795	796
65	647	645	647	650	648	650	651	650	648	650	647	645	647	645	647	650	648	650	651
70	505	502	503	505	502	502	505	502	505	503	502	505	502	503	505	502	502	505	505
75	365	363	362	363	360	359	360	359	360	363	362	363	365	363	362	363	360	359	360
80	232	231	229	228	224	223	223	223	224	228	229	231	232	231	229	228	224	223	223
85	110	109	107	105	103	102	102	103	105	107	109	110	109	107	105	103	102	102	102
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	285	300	315	330	345														
0	1796	1794	1799	1797	1793														
5	1787	1789	1792	1787	1788														
10	1766	1767	1766	1765	1767														
15	1727	1725	1728	1728	1725														
20	1670	1671	1676	1670	1670														
25	1603	1605	1605	1601	1601														
30	1522	1520	1520	1518	1516														
35	1424	1423	1425	1421	1416														
40	1317	1317	1318	1310	1308														
45	1199	1198	1197	1192	1189														
50	1072	1070	1071	1066	1060														
55	935	935	937	929	925														
60	795	795	795	789	788														
65	650	648	650	647	645														
70	502	502	505	503	502														
75	359	360	363	362	363														
80	223	224	228	229	231														
85	102	103	105	107	109														
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

<b>Model No.</b>	EZP2X4 @40W5000K	<b>Sample ID</b>	250117003-S1
<b>Temperature (°C)</b>	25.4	<b>Humidity (%RH)</b>	41.0

<b>Test Method</b>
<p>The samples were tested according to the and Ansi C82.77: 2002 and ANSI C82.77-10:2020</p> <p>The total harmonic distortion shall be measured to the 40th order.</p> <p>The ambient temperature shall be maintained at <math>25 \pm 1^\circ\text{C}</math>. The sample measurements were made using a digital power meter and power supply. The sample was operated at rated voltage and was stabilized before measurement. The total harmonic distortion was calculated.</p>

### Test Results

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	iTHD(%)
120.0	60	0.336	40.1	0.994	10.27
277.0	60	0.150	40.0	0.960	8.68

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