

## Photometric Test Report

### Relevant Standards

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

Prepared For

**RAB Lighting Inc.**

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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		4863
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	121.9
		110	125	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		39.9
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	11.36
			277V	15.33
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.993
			277V	0.977
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	3465±245	3364
		4 steps	3465±124	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥80		82.4
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥0		5
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		94
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	21.8
		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		0.147
(Goniophotometer – Section 4.2)		Non-Worst Case		0.334
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		39.9
(Goniophotometer – Section 4.2)		Non-Worst Case		39.8

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-17	EZP2X2 @40W3500K	-	250117002-S1
2	Goniophotometer Test	2025-01-17	EZP2X2 @40W3500K	-	250117002-S1
3	THD and PF Test	2025-01-17	EZP2X2 @40W3500K	-	250117002-S1

### Remark (If any):

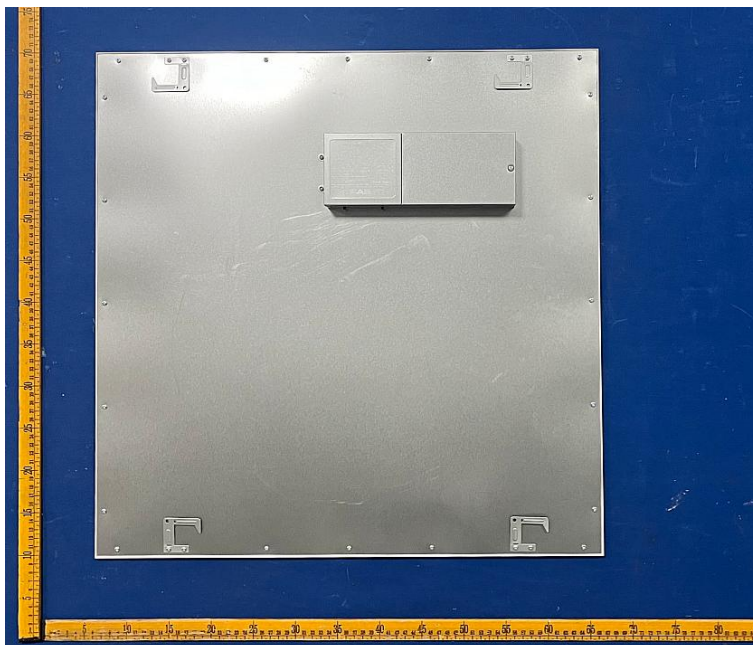
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2. This report shall not be reproduced, no limited part or full, without approval of Dongguan New Testing Centre Co., Ltd.
3. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any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

### 3.0 Product Description

Luminaire Description: Model No. EZP2X2 @40W3500K, 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>	EZP2X2 @40W3500K	<b>Sample ID</b>	250117002-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

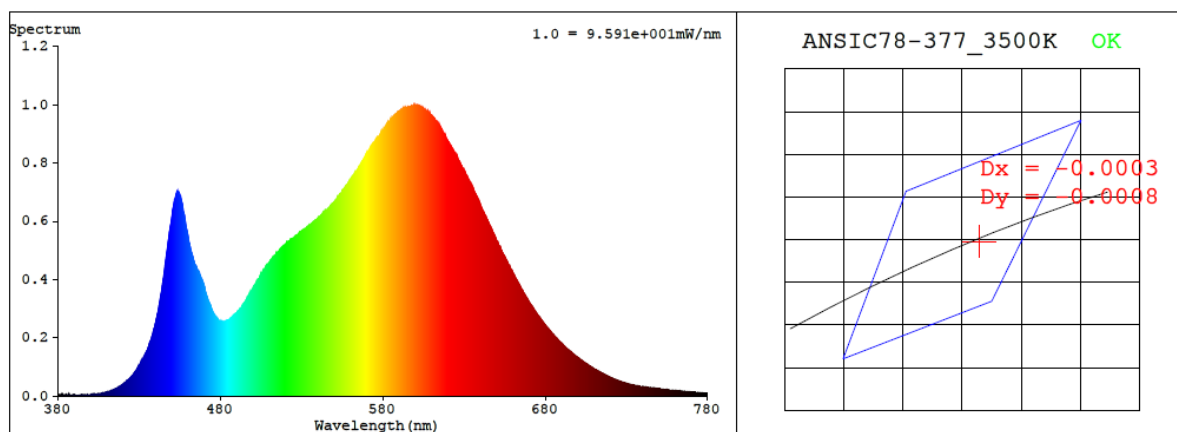
<b>Test Method</b>
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were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

<b>Voltage (Vac)</b>	<b>Frequency (Hz)</b>	<b>Current (A)</b>	<b>Power (W)</b>	<b>Power Factor</b>
120.0	60	0.334	39.8	0.993
277.0	60	0.147	39.9	0.977

<b>CCT (K)</b>	<b>CRI</b>	<b>R9</b>	<b>Duv</b>	<b>Rf</b>	<b>Rg</b>	<b>IES Rcs,h1</b>
3364	82.4	5	-0.0003	84	94	-13%

## 4.1 Integrating Sphere Test



### Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.4129$   $y = 0.3937$  /  $u' = 0.2394$   $v' = 0.5136$  ( $duv = -2.96e-04$ )

CCT= 3364K Prcp WL: Ld=581.5nm Purity=42.1%

Peak WL: Lp=599nm FWHM: =137.8nm Ratio:R=20.8% G=76.0% B=3.2%

Render Index: Ra = 82.4 AvgR = 76.3 TM30:Rf=84 Rg=95

EEL: 0.10914 A++ Highest

R1 =81 R2 =91 R3 =96 R4 =80 R5 =81 R6 =89 R7 =83

R8 =59 R9 =5 R10=79 R11=78 R12=68 R13=83 R14=98 R15=74

## 4.1 Integrating Sphere Test

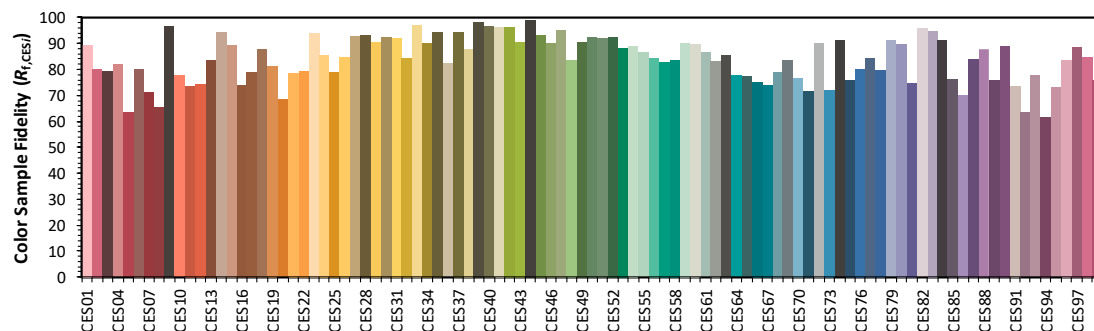
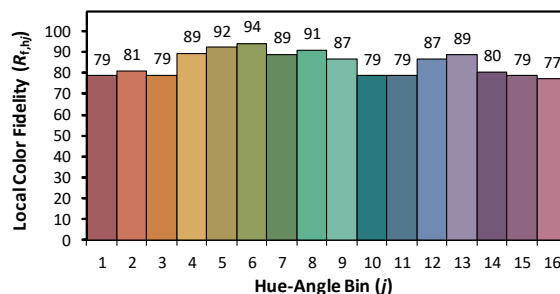
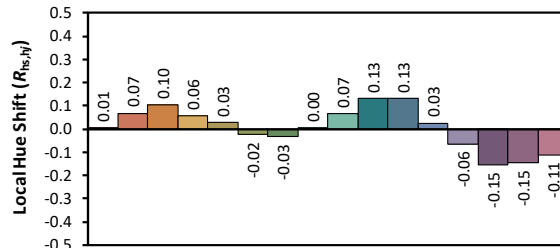
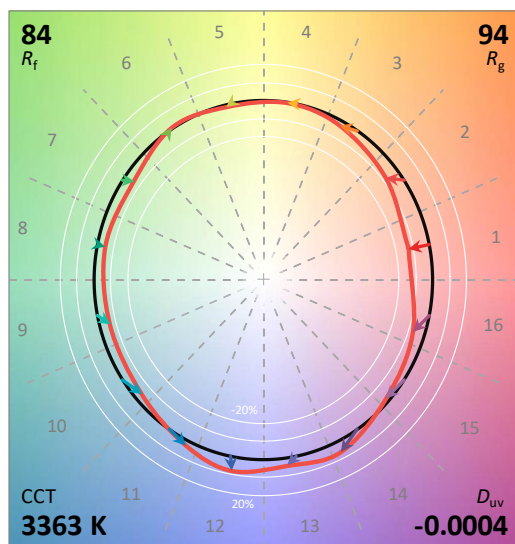
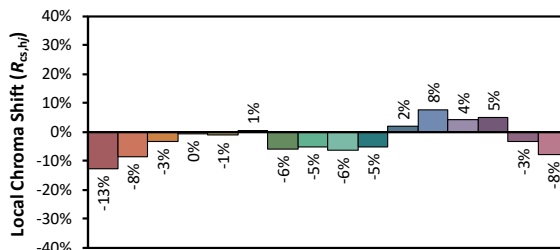
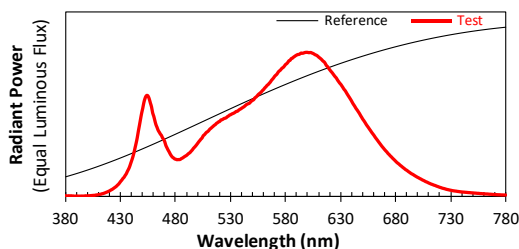
### ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/21

Model: EZP2X2 @40W3500K



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

$x$  0.4129  
 $y$  0.3935  
 $u'$  0.2394  
 $v'$  0.5136

CIE 13.3-1995  
(CRI)  
 $R_a$  82  
 $R_g$  5

## 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	6.30E-06	447	4.92E-04	514	4.85E-04	581	9.19E-04	648	5.60E-04	715	7.84E-05
381	4.30E-06	448	5.35E-04	515	4.92E-04	582	9.28E-04	649	5.48E-04	716	7.63E-05
382	5.20E-06	449	5.76E-04	516	4.97E-04	583	9.38E-04	650	5.35E-04	717	7.27E-05
383	5.50E-06	450	6.10E-04	517	5.06E-04	584	9.41E-04	651	5.24E-04	718	7.01E-05
384	4.70E-06	451	6.48E-04	518	5.10E-04	585	9.53E-04	652	5.13E-04	719	6.73E-05
385	5.70E-06	452	6.76E-04	519	5.17E-04	586	9.55E-04	653	5.00E-04	720	6.43E-05
386	3.10E-06	453	6.93E-04	520	5.19E-04	587	9.62E-04	654	4.89E-04	721	6.21E-05
387	4.80E-06	454	6.99E-04	521	5.29E-04	588	9.67E-04	655	4.79E-04	722	5.93E-05
388	1.40E-06	455	6.91E-04	522	5.31E-04	589	9.73E-04	656	4.67E-04	723	5.70E-05
389	3.30E-06	456	6.72E-04	523	5.35E-04	590	9.77E-04	657	4.57E-04	724	5.53E-05
390	4.50E-06	457	6.45E-04	524	5.40E-04	591	9.81E-04	658	4.45E-04	725	5.31E-05
391	3.20E-06	458	6.19E-04	525	5.41E-04	592	9.81E-04	659	4.35E-04	726	5.06E-05
392	3.50E-06	459	5.78E-04	526	5.45E-04	593	9.86E-04	660	4.25E-04	727	4.88E-05
393	3.10E-06	460	5.55E-04	527	5.52E-04	594	9.91E-04	661	4.14E-04	728	4.72E-05
394	3.80E-06	461	5.25E-04	528	5.56E-04	595	9.89E-04	662	4.03E-04	729	4.53E-05
395	3.60E-06	462	4.97E-04	529	5.63E-04	596	9.91E-04	663	3.93E-04	730	4.38E-05
396	3.70E-06	463	4.78E-04	530	5.66E-04	597	9.94E-04	664	3.82E-04	731	4.21E-05
397	4.10E-06	464	4.58E-04	531	5.71E-04	598	9.95E-04	665	3.72E-04	732	4.06E-05
398	5.50E-06	465	4.45E-04	532	5.74E-04	599	9.96E-04	666	3.62E-04	733	3.95E-05
399	4.90E-06	466	4.32E-04	533	5.77E-04	600	9.95E-04	667	3.52E-04	734	3.84E-05
400	5.30E-06	467	4.22E-04	534	5.82E-04	601	9.94E-04	668	3.42E-04	735	3.75E-05
401	5.80E-06	468	4.05E-04	535	5.88E-04	602	9.94E-04	669	3.33E-04	736	3.60E-05
402	6.10E-06	469	3.95E-04	536	5.89E-04	603	9.94E-04	670	3.24E-04	737	3.52E-05
403	7.20E-06	470	3.79E-04	537	5.95E-04	604	9.91E-04	671	3.15E-04	738	3.40E-05
404	7.50E-06	471	3.53E-04	538	6.01E-04	605	9.88E-04	672	3.07E-04	739	3.31E-05
405	8.60E-06	472	3.38E-04	539	6.05E-04	606	9.83E-04	673	2.98E-04	740	3.21E-05
406	8.50E-06	473	3.22E-04	540	6.10E-04	607	9.79E-04	674	2.90E-04	741	3.13E-05
407	1.02E-05	474	3.09E-04	541	6.16E-04	608	9.76E-04	675	2.82E-04	742	3.09E-05
408	1.15E-05	475	2.94E-04	542	6.20E-04	609	9.70E-04	676	2.75E-04	743	3.00E-05
409	1.22E-05	476	2.82E-04	543	6.27E-04	610	9.63E-04	677	2.66E-04	744	2.95E-05
410	1.41E-05	477	2.72E-04	544	6.34E-04	611	9.57E-04	678	2.59E-04	745	2.87E-05
411	1.57E-05	478	2.67E-04	545	6.38E-04	612	9.51E-04	679	2.52E-04	746	2.79E-05
412	1.68E-05	479	2.60E-04	546	6.42E-04	613	9.43E-04	680	2.44E-04	747	2.75E-05
413	1.96E-05	480	2.58E-04	547	6.45E-04	614	9.35E-04	681	2.36E-04	748	2.68E-05
414	2.12E-05	481	2.55E-04	548	6.53E-04	615	9.30E-04	682	2.30E-04	749	2.59E-05
415	2.40E-05	482	2.56E-04	549	6.60E-04	616	9.18E-04	683	2.24E-04	750	2.57E-05
416	2.69E-05	483	2.56E-04	550	6.65E-04	617	9.05E-04	684	2.17E-04	751	2.48E-05
417	3.01E-05	484	2.56E-04	551	6.70E-04	618	8.97E-04	685	2.11E-04	752	2.42E-05
418	3.31E-05	485	2.62E-04	552	6.82E-04	619	8.86E-04	686	2.05E-04	753	2.37E-05
419	3.69E-05	486	2.66E-04	553	6.87E-04	620	8.76E-04	687	1.98E-04	754	2.27E-05
420	4.03E-05	487	2.71E-04	554	6.95E-04	621	8.66E-04	688	1.93E-04	755	2.26E-05
421	4.54E-05	488	2.76E-04	555	7.04E-04	622	8.57E-04	689	1.86E-04	756	2.18E-05
422	4.90E-05	489	2.81E-04	556	7.11E-04	623	8.47E-04	690	1.82E-04	757	2.09E-05
423	5.42E-05	490	2.86E-04	557	7.17E-04	624	8.37E-04	691	1.76E-04	758	2.07E-05
424	5.98E-05	491	2.93E-04	558	7.24E-04	625	8.27E-04	692	1.70E-04	759	1.98E-05
425	6.52E-05	492	2.99E-04	559	7.34E-04	626	8.19E-04	693	1.65E-04	760	1.97E-05
426	7.10E-05	493	3.04E-04	560	7.41E-04	627	8.06E-04	694	1.59E-04	761	1.88E-05
427	7.89E-05	494	3.14E-04	561	7.51E-04	628	7.95E-04	695	1.55E-04	762	1.83E-05
428	8.58E-05	495	3.21E-04	562	7.58E-04	629	7.84E-04	696	1.51E-04	763	1.82E-05
429	9.55E-05	496	3.32E-04	563	7.68E-04	630	7.76E-04	697	1.46E-04	764	1.76E-05
430	1.06E-04	497	3.40E-04	564	7.74E-04	631	7.64E-04	698	1.41E-04	765	1.66E-05
431	1.14E-04	498	3.49E-04	565	7.82E-04	632	7.53E-04	699	1.37E-04	766	1.64E-05
432	1.25E-04	499	3.58E-04	566	7.91E-04	633	7.41E-04	700	1.33E-04	767	1.58E-05
433	1.33E-04	500	3.69E-04	567	8.02E-04	634	7.32E-04	701	1.29E-04	768	1.52E-05
434	1.46E-04	501	3.79E-04	568	8.11E-04	635	7.19E-04	702	1.24E-04	769	1.45E-05
435	1.57E-04	502	3.88E-04	569	8.20E-04	636	7.07E-04	703	1.21E-04	770	1.44E-05
436	1.74E-04	503	3.98E-04	570	8.31E-04	637	6.95E-04	704	1.16E-04	771	1.38E-05
437	1.88E-04	504	4.05E-04	571	8.38E-04	638	6.83E-04	705	1.12E-04	772	1.35E-05
438	2.05E-04	505	4.20E-04	572	8.46E-04	639	6.71E-04	706	1.09E-04	773	1.29E-05
439	2.28E-04	506	4.27E-04	573	8.58E-04	640	6.58E-04	707	1.04E-04	774	1.28E-05
440	2.50E-04	507	4.36E-04	574	8.66E-04	641	6.44E-04	708	1.01E-04	775	1.24E-05
441	2.74E-04	508	4.44E-04	575	8.72E-04	642	6.32E-04	709	9.78E-05	776	1.17E-05
442	3.03E-04	509	4.49E-04	576	8.81E-04	643	6.20E-04	710	9.38E-05	777	1.16E-05
443	3.36E-04	510	4.56E-04	577	8.88E-04	644	6.07E-04	711	9.06E-05	778	1.12E-05
444	3.69E-04	511	4.66E-04	578	8.94E-04	645	5.97E-04	712	8.70E-05	779	1.11E-05
445	4.06E-04	512	4.72E-04	579	9.04E-04	646	5.85E-04	713	8.45E-05	780	1.12E-05
446	4.51E-04	513	4.79E-04	580	9.13E-04	647	5.74E-04	714	8.15E-05	N/A	N/A

## 4.0 LM-79 Measurement and Test Results

### 4.2 Goniophotometer Test

<b>Model No.</b>	EZP2X2 @40W3500K	<b>Sample ID</b>	250117002-S1
<b>Operate time (Min.)</b>	30	<b>Stabilization time (Min.)</b>	60
<b>Temperature (°C)</b>	24.6	<b>Humidity (%RH)</b>	42.2

<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>	277.0	60	0.147	39.9	0.977
<b>NON-WORST CASE</b>	120.0	60	0.334	39.8	0.993

### Test Result

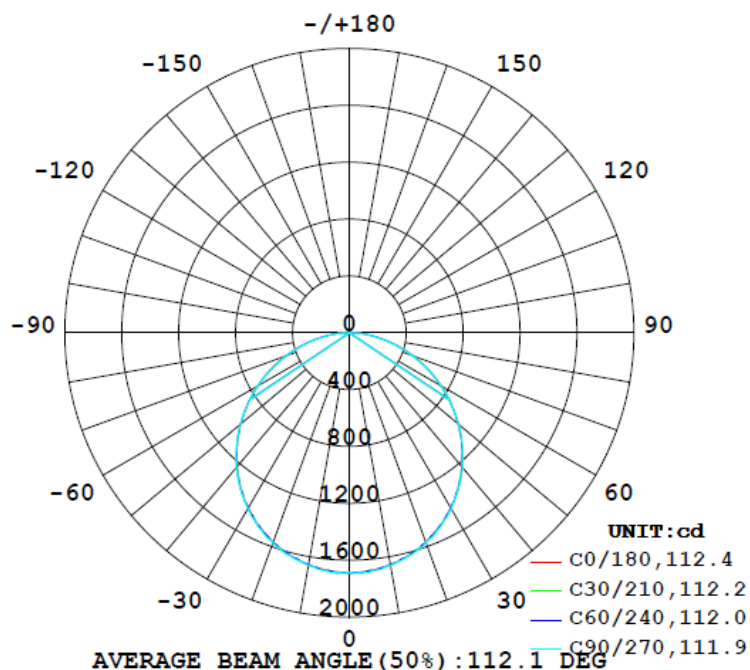
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement
	C0-180	C90-270	C0-180	C90-270		(0°-60°)
4863	164.7	164.1	111.9	112.0	121.9	77.9%

UGR		Spacing Criterion	
Crosswise	Endwise	(0°-180°)	(90°-270°)
21.8	21.7	1.26	1.26

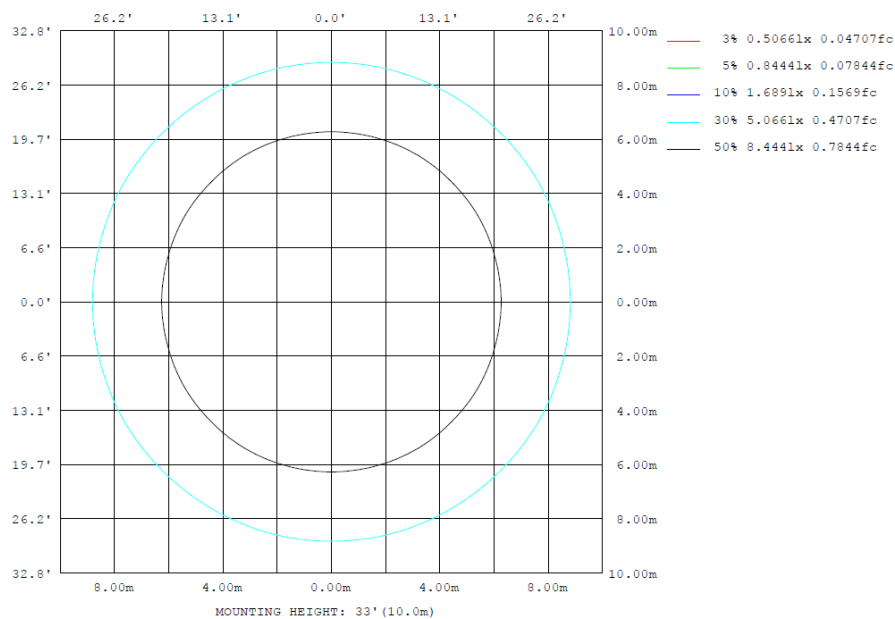
## 4.2 Goniophotometer Test

### 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	1658	1660	1664	1660	1658	1660	1664	1660	0~ 10	159.7	159.7	3.28, 3.28
20	1569	1568	1573	1568	1569	1568	1573	1568	10~ 20	457.3	617.0	12.7, 12.7
30	1425	1424	1429	1424	1425	1424	1429	1424	20~ 30	692.7	1310	26.9, 26.9
40	1230	1235	1239	1235	1230	1235	1239	1235	30~ 40	834.2	2144	44.1, 44.1
50	999.1	999.6	999.2	999.6	999.1	999.6	999.2	999.6	40~ 50	863.4	3007	61.8, 61.8
60	743.7	740.4	744.2	740.4	743.7	740.4	744.2	740.4	50~ 60	780.0	3787	77.9, 77.9
70	477.6	472.7	467.5	472.7	477.6	472.7	467.5	472.7	60~ 70	600.9	4388	90.2, 90.2
80	221.8	216.5	211.7	216.5	221.8	216.5	211.7	216.5	70~ 80	360.8	4749	97.7, 97.7
90	0	0	0	0	0	0	0	0	80~ 90	113.9	4863	100, 100
100	0	0	0	0	0	0	0	0	90~100	0	4863	100, 100
110	0	0	0	0	0	0	0	0	100~110	0	4863	100, 100
120	0	0	0	0	0	0	0	0	110~120	0	4863	100, 100
130	0	0	0	0	0	0	0	0	120~130	0	4863	100, 100
140	0	0	0	0	0	0	0	0	130~140	0	4863	100, 100
150	0	0	0	0	0	0	0	0	140~150	0	4863	100, 100
160	0	0	0	0	0	0	0	0	150~160	0	4863	100, 100
170	0	0	0	0	0	0	0	0	160~170	0	4863	100, 100
180	0	0	0	0	0	0	0	0	170~180	0	4863	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

	Zonal (lm)		Total (lm)	Percent
0-10	159.69	0-10	159.69	3.28%
10-20	457.31	0-20	617.00	12.69%
20-30	692.70	0-30	1309.70	26.93%
30-40	834.17	0-40	2143.87	44.09%
40-50	863.40	0-50	3007.27	61.84%
50-60	780.00	0-60	3787.27	77.88%
60-70	600.94	0-70	4388.21	90.24%
70-80	360.84	0-80	4749.05	97.66%
80-90	113.87	0-90	4862.92	100.00%
90-100	0.00	0-100	4862.92	100.00%
100-110	0.00	0-110	4862.92	100.00%
110-120	0.00	0-120	4862.92	100.00%
120-130	0.00	0-130	4862.92	100.00%
130-140	0.00	0-140	4862.92	100.00%
140-150	0.00	0-150	4862.92	100.00%
150-160	0.00	0-160	4862.92	100.00%
160-170	0.00	0-170	4862.92	100.00%
170-180	0.00	0-180	4862.92	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	30
Walls	50	30	50	30	30	50	30	50	30	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20	20
Room Size											
X=2H		UGR Viewed Crosswise					UGR Viewed Endwise				
Y=2H		11.7	13.3	12.0	13.6	13.9	11.6	13.3	12.0	13.6	13.9
3H		13.5	15.0	13.9	15.4	15.7	13.5	15.0	13.9	15.3	15.7
4H		14.3	15.7	14.7	16.0	16.4	14.2	15.6	14.6	16.0	16.3
6H		14.9	16.2	15.3	16.5	16.9	14.8	16.1	15.2	16.4	16.8
8H		15.1	16.3	15.5	16.7	17.1	15.0	16.2	15.4	16.6	17.0
12H		15.2	16.4	15.7	16.8	17.2	15.1	16.3	15.5	16.7	17.1
4H	2H	12.3	13.7	12.7	14.1	14.4	12.3	13.7	12.7	14.0	14.4
	3H	14.4	15.6	14.8	16.0	16.4	14.4	15.6	14.8	15.9	16.3
	4H	15.3	16.4	15.7	16.8	17.2	15.2	16.3	15.6	16.7	17.1
	6H	16.0	17.0	16.5	17.4	17.9	15.9	16.9	16.4	17.3	17.8
	8H	16.3	17.2	16.7	17.6	18.1	16.2	17.0	16.6	17.5	18.0
8H	4H	15.6	16.5	16.1	17.0	17.4	15.6	16.4	16.0	16.9	17.4
	6H	16.5	17.2	17.0	17.7	18.2	16.4	17.1	16.9	17.6	18.1
	8H	16.9	17.5	17.4	18.0	18.5	16.7	17.4	17.2	17.9	18.4
	12H	17.2	17.8	17.7	18.3	18.8	17.0	17.6	17.5	18.1	18.7
12H	4H	15.7	16.5	16.2	17.0	17.4	15.6	16.4	16.1	16.9	17.4
	6H	16.6	17.3	17.1	17.7	18.3	16.5	17.2	17.0	17.6	18.2
	8H	17.0	17.6	17.5	18.1	18.6	16.9	17.5	17.4	18.0	18.5

Maximum UGR = 18.8

UGR – Corrected Table:

**UGR TABLE - CORRECTED**

Reflectances											
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30	30
Walls	50	30	50	30	30	50	30	50	30	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20	20
Room Size											
X=2H		UGR Viewed Crosswise					UGR Viewed Endwise				
Y=2H		17.2	18.8	17.5	19.1	19.4	17.1	18.8	17.5	19.1	19.4
3H		19.0	20.5	19.4	20.9	21.2	19.0	20.5	19.4	20.8	21.2
4H		19.8	21.2	20.2	21.5	21.9	19.7	21.1	20.1	21.5	21.8
6H		20.4	21.7	20.8	22.0	22.4	20.3	21.6	20.7	21.9	22.3
8H		20.6	21.8	21.0	22.2	22.6	20.5	21.7	20.9	22.1	22.5
12H		20.7	21.9	21.2	22.3	22.7	20.6	21.8	21.0	22.2	22.6
4H	2H	17.8	19.2	18.2	19.6	19.9	17.8	19.2	18.2	19.5	19.9
	3H	19.9	21.1	20.3	21.5	21.9	19.9	21.1	20.3	21.4	21.8
	4H	20.8	21.9	21.2	22.3	22.7	20.7	21.8	21.1	22.2	22.6
	6H	21.5	22.5	22.0	22.9	23.4	21.4	22.4	21.9	22.8	23.3
	8H	21.8	22.7	22.2	23.1	23.6	21.7	22.5	22.1	23.0	23.5
8H	4H	21.1	22.0	21.6	22.5	22.9	21.1	21.9	21.5	22.4	22.9
	6H	22.0	22.7	22.5	23.2	23.7	21.9	22.6	22.4	23.1	23.6
	8H	22.4	23.0	22.9	23.5	24.0	22.2	22.9	22.7	23.4	23.9
	12H	22.7	23.3	23.2	23.8	24.3	22.5	23.1	23.0	23.6	24.2
12H	4H	21.2	22.0	21.7	22.5	22.9	21.1	21.9	21.6	22.4	22.9
	6H	22.1	22.8	22.6	23.2	23.8	22.0	22.7	22.5	23.1	23.7
	8H	22.5	23.1	23.0	23.6	24.1	22.4	23.0	22.9	23.5	24.0

Maximum UGR = 24.3

## 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	1687	1683	1689	1689	1692	1688	1686	1688	1692	1689	1689	1683	1687	1683	1689	1689	1692	1688	1686
5	1678	1680	1679	1683	1678	1678	1690	1678	1678	1683	1679	1680	1678	1680	1679	1683	1678	1678	1690
10	1658	1656	1659	1660	1653	1658	1664	1658	1653	1660	1659	1656	1658	1656	1659	1660	1653	1658	1664
15	1618	1619	1620	1621	1621	1625	1622	1625	1621	1621	1620	1619	1618	1619	1620	1621	1621	1625	1622
20	1569	1565	1568	1568	1572	1565	1573	1565	1572	1568	1568	1565	1569	1565	1568	1568	1572	1565	1573
25	1499	1500	1502	1504	1500	1504	1513	1504	1500	1504	1502	1500	1499	1500	1502	1504	1500	1504	1513
30	1425	1420	1425	1424	1422	1431	1429	1431	1422	1424	1425	1420	1425	1420	1425	1424	1422	1431	1429
35	1330	1330	1333	1334	1339	1334	1335	1334	1339	1334	1333	1330	1330	1330	1333	1334	1339	1334	1335
40	1230	1230	1230	1235	1232	1230	1239	1230	1232	1235	1230	1230	1230	1230	1230	1235	1232	1230	1239
45	1119	1119	1119	1120	1116	1123	1124	1123	1116	1120	1119	1119	1119	1119	1119	1120	1116	1123	1124
50	999	999	1000	1000	1000	1002	999	1002	1000	1000	1000	999	999	999	1000	1000	1002	999	
55	876	873	874	873	872	870	872	870	872	873	874	873	876	873	874	873	872	870	872
60	744	742	743	740	738	739	744	739	738	740	743	742	744	742	743	740	738	739	744
65	612	609	609	609	604	606	605	606	604	609	609	609	612	609	609	609	604	606	605
70	478	476	475	473	472	467	467	467	472	473	475	476	478	476	475	473	472	467	467
75	346	345	343	341	338	335	337	335	338	341	343	345	346	345	343	341	338	335	337
80	222	221	220	217	213	212	212	212	213	217	220	221	222	221	220	217	213	212	212
85	106	105	104	103	101	99.4	98.9	99.4	101	103	104	105	106	105	104	103	101	99.4	98.9
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	1688	1692	1689	1689	1683														
5	1678	1678	1683	1679	1680														
10	1658	1653	1660	1659	1656														
15	1625	1621	1621	1620	1619														
20	1565	1572	1568	1568	1565														
25	1504	1500	1504	1502	1500														
30	1431	1422	1424	1425	1420														
35	1334	1339	1334	1333	1330														
40	1230	1232	1235	1230	1230														
45	1123	1116	1120	1119	1119														
50	1002	1000	1000	1000	999														
55	870	872	873	874	873														
60	739	738	740	743	742														
65	606	604	609	609	609														
70	467	472	473	475	476														
75	335	338	341	343	345														
80	212	213	217	220	221														
85	99.4	101	103	104	105														
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>	EZP2X2 @40W3500K	<b>Sample ID</b>	250117002-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	0.334	39.8	0.993	11.36
277.0	60	0.147	39.9	0.977	15.33

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