

Photometric Test Report

Relevant Standards

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

Prepared For

RAB Lighting Inc.

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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		6352
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	133.7
		110	125	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		47.5
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	10.89
			277V	12.29
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.993
			277V	0.969
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	3985±275	4014
		4 steps	3985±154	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥80		84.2
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79-2019 CIE13.3-1995	≥0		13
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	20.2
		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		0.399
(Goniophotometer – Section 4.2)		Non-Worst Case		0.173
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		47.5
(Goniophotometer – Section 4.2)		Non-Worst Case		46.4

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-20	EZP2X4 @50W4000K	-	250117003-S1
2	Goniophotometer Test	2025-01-20	EZP2X4 @50W4000K	-	250117003-S1
3	THD and PF Test	2025-01-20	EZP2X4 @50W4000K	-	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 @50W4000K, 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 @50W4000K	Sample ID	250117003-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

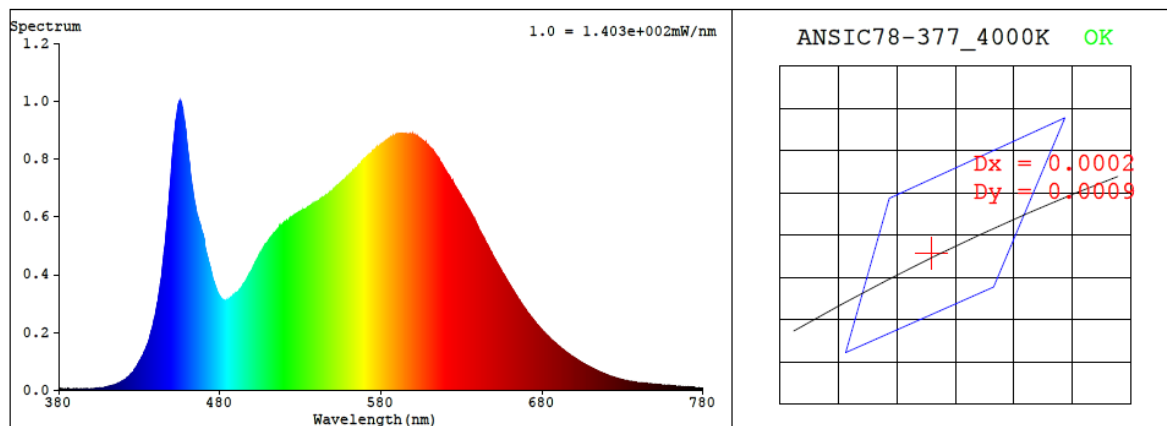
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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	0.399	47.5	0.993
277.0	60	0.173	46.4	0.969

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
4014	84.2	13	0.0004	84	93	-12%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3801$ $y = 0.3773$ / $u' = 0.2246$ $v' = 0.5018$ ($duv=3.75e-04$)

CCT= 4014K Prcp WL: $L_d=578.8nm$ Purity=27.3%

Peak WL: $L_p=455nm$ FWHM: $=24.9nm$ Ratio:R=18.5% G=77.5% B=4.1%

Render Index: $R_a = 84.2$ AvgR = 78.2 TM30:Rf=84 Rg=94

EEL: 0.09375 A++ Highest

R1 =83 R2 =92 R3 =96 R4 =81 R5 =83 R6 =89 R7 =85

R8 =65 R9 =13 R10=81 R11=80 R12=63 R13=86 R14=98 R15=77

4.1 Integrating Sphere Test

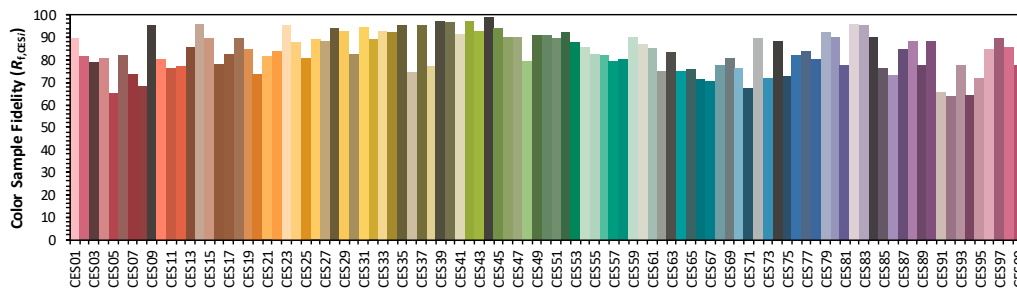
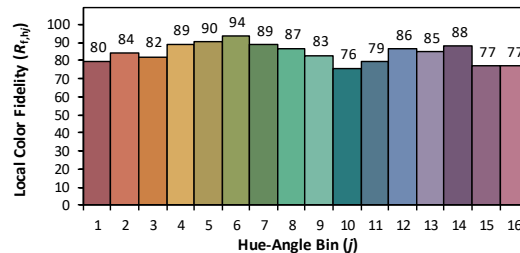
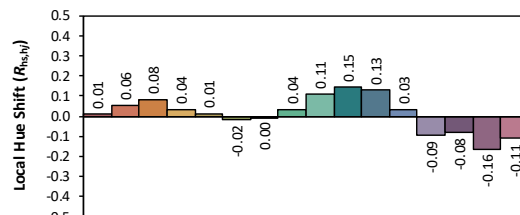
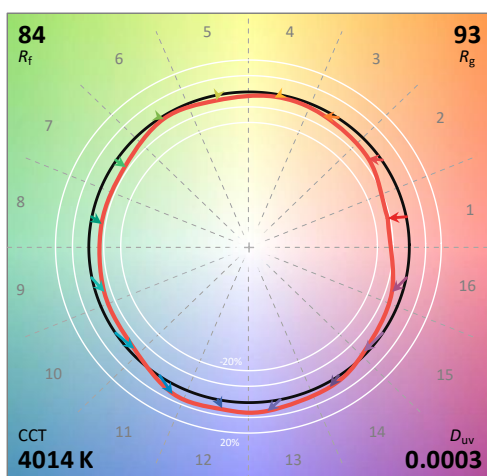
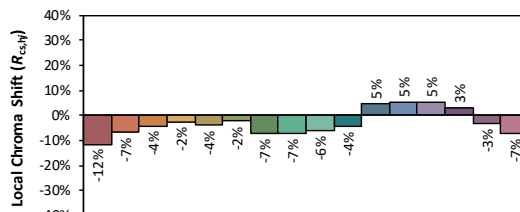
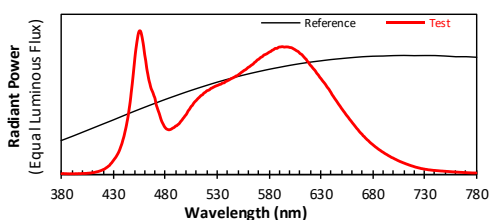
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/21

Model: EZP2X4 @50W4000K



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

x 0.3800
 y 0.3772
 u' 0.2247
 v' 0.5017

CIE 13.3-1995
(CRI)
 R_a 84
 R_g 13

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	4.20E-06	447	5.69E-04	514	5.45E-04	581	8.53E-04	648	4.81E-04	715	6.59E-05
381	5.60E-06	448	6.30E-04	515	5.51E-04	582	8.56E-04	649	4.71E-04	716	6.35E-05
382	5.30E-06	449	7.00E-04	516	5.54E-04	583	8.63E-04	650	4.60E-04	717	6.09E-05
383	3.80E-06	450	7.72E-04	517	5.64E-04	584	8.65E-04	651	4.50E-04	718	5.86E-05
384	4.80E-06	451	8.41E-04	518	5.69E-04	585	8.70E-04	652	4.40E-04	719	5.65E-05
385	3.50E-06	452	8.96E-04	519	5.74E-04	586	8.76E-04	653	4.31E-04	720	5.41E-05
386	4.10E-06	453	9.44E-04	520	5.81E-04	587	8.76E-04	654	4.21E-04	721	5.17E-05
387	3.20E-06	454	9.83E-04	521	5.83E-04	588	8.77E-04	655	4.11E-04	722	4.95E-05
388	3.80E-06	455	9.98E-04	522	5.86E-04	589	8.82E-04	656	4.02E-04	723	4.78E-05
389	3.90E-06	456	9.95E-04	523	5.91E-04	590	8.85E-04	657	3.93E-04	724	4.59E-05
390	3.60E-06	457	9.70E-04	524	5.98E-04	591	8.86E-04	658	3.82E-04	725	4.42E-05
391	4.00E-06	458	9.33E-04	525	6.00E-04	592	8.87E-04	659	3.74E-04	726	4.25E-05
392	3.40E-06	459	8.88E-04	526	6.05E-04	593	8.88E-04	660	3.64E-04	727	4.03E-05
393	4.50E-06	460	8.33E-04	527	6.08E-04	594	8.86E-04	661	3.55E-04	728	3.94E-05
394	4.50E-06	461	7.90E-04	528	6.12E-04	595	8.85E-04	662	3.46E-04	729	3.77E-05
395	3.90E-06	462	7.36E-04	529	6.15E-04	596	8.86E-04	663	3.37E-04	730	3.67E-05
396	5.10E-06	463	6.98E-04	530	6.18E-04	597	8.86E-04	664	3.28E-04	731	3.50E-05
397	4.80E-06	464	6.59E-04	531	6.21E-04	598	8.86E-04	665	3.18E-04	732	3.43E-05
398	4.50E-06	465	6.31E-04	532	6.24E-04	599	8.85E-04	666	3.11E-04	733	3.31E-05
399	5.40E-06	466	6.02E-04	533	6.26E-04	600	8.83E-04	667	3.01E-04	734	3.15E-05
400	5.70E-06	467	5.84E-04	534	6.29E-04	601	8.82E-04	668	2.93E-04	735	3.09E-05
401	5.90E-06	468	5.67E-04	535	6.35E-04	602	8.80E-04	669	2.85E-04	736	3.02E-05
402	5.90E-06	469	5.45E-04	536	6.36E-04	603	8.76E-04	670	2.78E-04	737	2.92E-05
403	6.40E-06	470	5.27E-04	537	6.37E-04	604	8.72E-04	671	2.68E-04	738	2.84E-05
404	6.70E-06	471	4.88E-04	538	6.45E-04	605	8.68E-04	672	2.63E-04	739	2.74E-05
405	7.70E-06	472	4.66E-04	539	6.47E-04	606	8.63E-04	673	2.54E-04	740	2.71E-05
406	8.10E-06	473	4.44E-04	540	6.51E-04	607	8.59E-04	674	2.47E-04	741	2.66E-05
407	8.80E-06	474	4.25E-04	541	6.55E-04	608	8.55E-04	675	2.40E-04	742	2.58E-05
408	9.30E-06	475	4.01E-04	542	6.59E-04	609	8.49E-04	676	2.35E-04	743	2.53E-05
409	1.06E-05	476	3.78E-04	543	6.63E-04	610	8.41E-04	677	2.27E-04	744	2.46E-05
410	1.18E-05	477	3.61E-04	544	6.67E-04	611	8.37E-04	678	2.20E-04	745	2.39E-05
411	1.23E-05	478	3.47E-04	545	6.70E-04	612	8.32E-04	679	2.14E-04	746	2.32E-05
412	1.43E-05	479	3.33E-04	546	6.75E-04	613	8.23E-04	680	2.08E-04	747	2.29E-05
413	1.62E-05	480	3.24E-04	547	6.77E-04	614	8.15E-04	681	2.02E-04	748	2.25E-05
414	1.79E-05	481	3.16E-04	548	6.83E-04	615	8.06E-04	682	1.96E-04	749	2.16E-05
415	1.93E-05	482	3.13E-04	549	6.85E-04	616	8.00E-04	683	1.90E-04	750	2.14E-05
416	2.17E-05	483	3.10E-04	550	6.89E-04	617	7.88E-04	684	1.85E-04	751	2.07E-05
417	2.41E-05	484	3.10E-04	551	6.95E-04	618	7.81E-04	685	1.79E-04	752	2.01E-05
418	2.67E-05	485	3.13E-04	552	7.00E-04	619	7.70E-04	686	1.74E-04	753	1.99E-05
419	2.98E-05	486	3.16E-04	553	7.07E-04	620	7.59E-04	687	1.69E-04	754	1.92E-05
420	3.32E-05	487	3.21E-04	554	7.12E-04	621	7.52E-04	688	1.64E-04	755	1.86E-05
421	3.61E-05	488	3.24E-04	555	7.17E-04	622	7.43E-04	689	1.59E-04	756	1.81E-05
422	4.09E-05	489	3.30E-04	556	7.23E-04	623	7.34E-04	690	1.55E-04	757	1.74E-05
423	4.61E-05	490	3.36E-04	557	7.26E-04	624	7.27E-04	691	1.50E-04	758	1.70E-05
424	5.06E-05	491	3.38E-04	558	7.31E-04	625	7.18E-04	692	1.45E-04	759	1.68E-05
425	5.70E-05	492	3.46E-04	559	7.38E-04	626	7.05E-04	693	1.41E-04	760	1.61E-05
426	6.19E-05	493	3.50E-04	560	7.44E-04	627	6.97E-04	694	1.37E-04	761	1.53E-05
427	7.19E-05	494	3.60E-04	561	7.48E-04	628	6.88E-04	695	1.32E-04	762	1.55E-05
428	7.91E-05	495	3.69E-04	562	7.53E-04	629	6.76E-04	696	1.28E-04	763	1.48E-05
429	8.90E-05	496	3.77E-04	563	7.59E-04	630	6.68E-04	697	1.24E-04	764	1.44E-05
430	9.86E-05	497	3.88E-04	564	7.63E-04	631	6.59E-04	698	1.19E-04	765	1.39E-05
431	1.09E-04	498	3.97E-04	565	7.69E-04	632	6.49E-04	699	1.16E-04	766	1.38E-05
432	1.18E-04	499	4.07E-04	566	7.78E-04	633	6.40E-04	700	1.13E-04	767	1.31E-05
433	1.30E-04	500	4.15E-04	567	7.82E-04	634	6.31E-04	701	1.09E-04	768	1.28E-05
434	1.43E-04	501	4.27E-04	568	7.89E-04	635	6.21E-04	702	1.05E-04	769	1.25E-05
435	1.56E-04	502	4.42E-04	569	7.97E-04	636	6.10E-04	703	1.02E-04	770	1.21E-05
436	1.74E-04	503	4.50E-04	570	8.00E-04	637	6.00E-04	704	9.81E-05	771	1.17E-05
437	1.94E-04	504	4.61E-04	571	8.06E-04	638	5.92E-04	705	9.47E-05	772	1.12E-05
438	2.14E-04	505	4.73E-04	572	8.13E-04	639	5.79E-04	706	9.14E-05	773	1.09E-05
439	2.40E-04	506	4.79E-04	573	8.17E-04	640	5.68E-04	707	8.81E-05	774	1.06E-05
440	2.65E-04	507	4.91E-04	574	8.21E-04	641	5.55E-04	708	8.55E-05	775	1.02E-05
441	2.97E-04	508	5.01E-04	575	8.29E-04	642	5.45E-04	709	8.23E-05	776	9.70E-06
442	3.28E-04	509	5.09E-04	576	8.32E-04	643	5.34E-04	710	7.96E-05	777	9.60E-06
443	3.66E-04	510	5.16E-04	577	8.35E-04	644	5.23E-04	711	7.68E-05	778	9.40E-06
444	4.04E-04	511	5.24E-04	578	8.39E-04	645	5.13E-04	712	7.39E-05	779	9.40E-06
445	4.55E-04	512	5.31E-04	579	8.44E-04	646	5.03E-04	713	7.12E-05	780	9.40E-06
446	5.04E-04	513	5.38E-04	580	8.48E-04	647	4.91E-04	714	6.88E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	EZP2X4 @50W4000K	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	0.399	47.5	0.993
NON-WORST CASE	277.0	60	0.173	46.4	0.969

Test Result

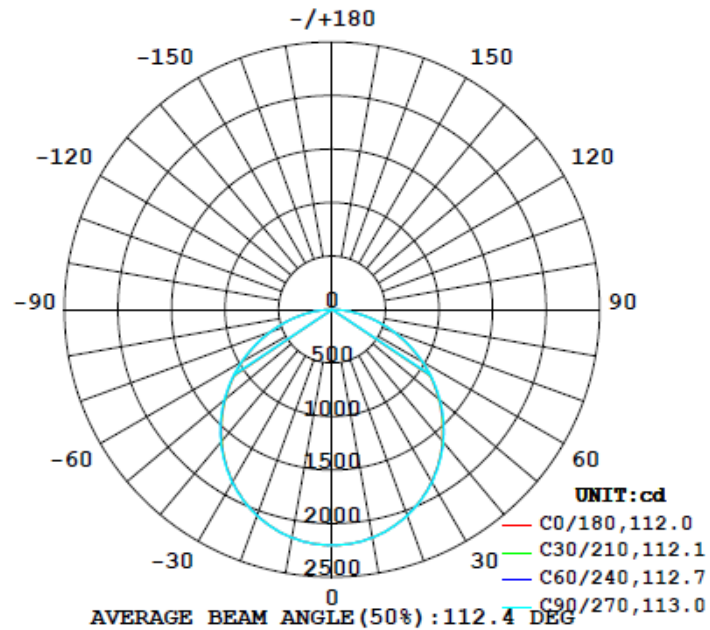
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement (0°-60°)
	C0-180	C90-270	C0-180	C90-270		
6352	164.5	164.0	112.0	112.8	133.7	78.0%

UGR		Spacing Criterion	
Crosswise	Endwise	(0°-180°)	(90°-270°)
20.2	20.2	1.26	1.26

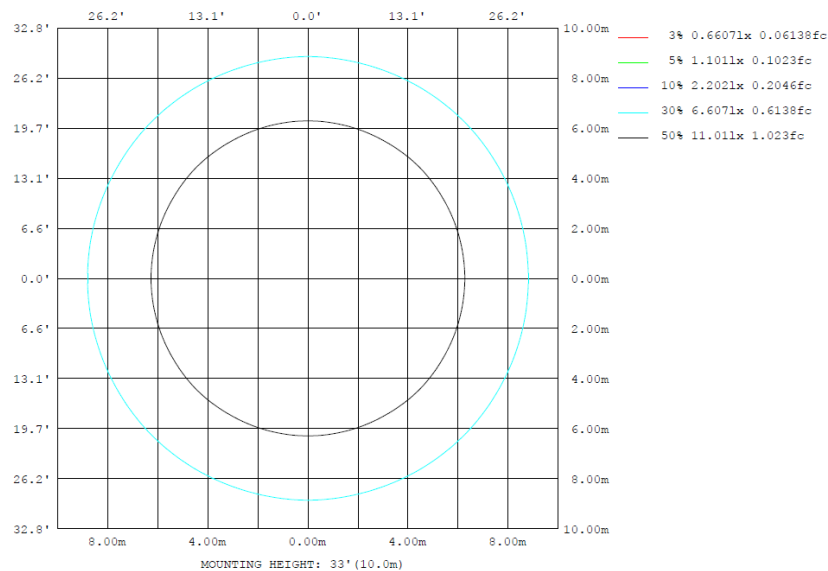
4.2 Goniophotometer Test

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	2162	2163	2167	2163	2162	2163	2167	2163	0- 10	208.4	208.4	3.28, 3.28
20	2050	2051	2049	2051	2050	2051	2049	2051	10- 20	597.2	805.6	12.7, 12.7
30	1856	1862	1870	1862	1856	1862	1870	1862	20- 30	905.1	1711	26.9, 26.9
40	1607	1613	1619	1613	1607	1613	1619	1613	30- 40	1090	2801	44.1, 44.1
50	1299	1313	1319	1313	1299	1313	1319	1313	40- 50	1130	3931	61.9, 61.9
60	966.0	972.1	978.4	972.1	966.0	972.1	978.4	972.1	50- 60	1022	4953	78.78
70	618.2	619.0	618.6	619.0	618.2	619.0	618.6	619.0	60- 70	786.0	5739	90.3, 90.3
80	284.8	279.1	274.9	279.1	284.8	279.1	274.9	279.1	70- 80	468.9	6208	97.7, 97.7
90	0	0	0	0	0	0	0	0	80- 90	144.6	6352	100, 100
100	0	0	0	0	0	0	0	0	90-100	0	6352	100, 100
110	0	0	0	0	0	0	0	0	100-110	0	6352	100, 100
120	0	0	0	0	0	0	0	0	110-120	0	6352	100, 100
130	0	0	0	0	0	0	0	0	120-130	0	6352	100, 100
140	0	0	0	0	0	0	0	0	130-140	0	6352	100, 100
150	0	0	0	0	0	0	0	0	140-150	0	6352	100, 100
160	0	0	0	0	0	0	0	0	150-160	0	6352	100, 100
170	0	0	0	0	0	0	0	0	160-170	0	6352	100, 100
180	0	0	0	0	0	0	0	0	170-180	0	6352	100, 100
DEG	LUMINOUS INTENSITY: cd									UNIT: lm		

	Zonal (lm)		Total (lm)	Percent
0-10	208.42	0-10	208.42	3.28%
10-20	597.18	0-20	805.60	12.68%
20-30	905.06	0-30	1710.66	26.93%
30-40	1090.20	0-40	2800.86	44.09%
40-50	1130.06	0-50	3930.92	61.88%
50-60	1021.74	0-60	4952.66	77.97%
60-70	786.02	0-70	5738.68	90.34%
70-80	468.93	0-80	6207.61	97.72%
80-90	144.63	0-90	6352.24	100.00%
90-100	0.00	0-100	6352.24	100.00%
100-110	0.00	0-110	6352.24	100.00%
110-120	0.00	0-120	6352.24	100.00%
120-130	0.00	0-130	6352.24	100.00%
130-140	0.00	0-140	6352.24	100.00%
140-150	0.00	0-150	6352.24	100.00%
150-160	0.00	0-160	6352.24	100.00%
160-170	0.00	0-170	6352.24	100.00%
170-180	0.00	0-180	6352.24	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											
X=2H	Y=2H	UGR Viewed Crosswise					UGR Viewed Endwise				
		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	12.8	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	12.9	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	15.2	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											
X=2H	Y=2H	UGR Viewed Crosswise					UGR Viewed Endwise				
		15.6	17.3	16.0	17.6	17.9	15.7	17.3	16.0	17.6	18.0
	3H	17.5	19.0	17.9	19.3	19.7	17.5	19.0	17.9	19.4	19.7
	4H	18.2	19.6	18.6	20.0	20.4	18.2	19.7	18.6	20.0	20.4
	6H	18.8	20.1	19.2	20.5	20.9	18.8	20.1	19.2	20.5	20.9
	8H	19.0	20.3	19.4	20.6	21.0	19.0	20.2	19.4	20.6	21.0
	12H	19.2	20.4	19.6	20.7	21.2	19.1	20.3	19.5	20.7	21.1
4H	2H	16.3	17.7	16.7	18.0	18.4	16.3	17.7	16.7	18.1	18.5
	3H	18.4	19.6	18.8	20.0	20.4	18.4	19.6	18.8	20.0	20.4
	4H	19.2	20.3	19.7	20.7	21.2	19.3	20.3	19.7	20.7	21.2
	6H	20.0	20.9	20.4	21.3	21.8	19.9	20.9	20.4	21.3	21.8
	8H	20.2	21.1	20.7	21.6	22.0	20.2	21.1	20.6	21.5	22.0
	12H	20.4	21.2	20.9	21.7	22.2	20.4	21.2	20.8	21.6	22.1
8H	4H	19.6	20.5	20.1	20.9	21.4	19.6	20.5	20.1	20.9	21.4
	6H	20.4	21.2	20.9	21.7	22.1	20.4	21.1	20.9	21.6	22.1
	8H	20.8	21.5	21.3	22.0	22.4	20.7	21.4	21.2	21.9	22.4
	12H	21.1	21.7	21.6	22.2	22.7	21.0	21.6	21.5	22.1	22.6
12H	4H	19.6	20.4	20.1	20.9	21.4	19.6	20.4	20.1	20.9	21.4
	6H	20.5	21.2	21.0	21.7	22.2	20.5	21.2	21.0	21.6	22.2
	8H	20.9	21.5	21.4	22.0	22.6	20.9	21.5	21.4	21.9	22.5

Maximum UGR = 22.7

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	2201	2205	2200	2208	2199	2205	2201	2205	2199	2208	2200	2205	2201	2205	2200	2208	2199	2205	2201
5	2197	2190	2193	2193	2193	2193	2192	2193	2193	2193	2193	2190	2197	2190	2193	2193	2193	2193	2192
10	2162	2164	2164	2163	2164	2162	2167	2162	2164	2163	2164	2164	2162	2164	2164	2163	2164	2162	2167
15	2114	2116	2113	2116	2114	2116	2118	2116	2114	2116	2113	2116	2114	2116	2113	2116	2114	2116	2118
20	2050	2049	2048	2051	2048	2053	2049	2053	2048	2051	2048	2049	2050	2049	2048	2051	2048	2053	2049
25	1964	1960	1964	1961	1967	1965	1966	1965	1967	1961	1964	1960	1964	1960	1964	1961	1967	1965	1966
30	1856	1859	1859	1862	1864	1862	1870	1862	1864	1862	1859	1859	1856	1859	1859	1862	1864	1862	1870
35	1738	1736	1739	1747	1743	1748	1747	1748	1743	1747	1739	1736	1738	1736	1739	1747	1743	1748	1747
40	1607	1603	1607	1613	1613	1615	1619	1615	1613	1613	1607	1603	1607	1603	1607	1613	1613	1615	1619
45	1457	1459	1461	1467	1473	1469	1477	1469	1473	1467	1461	1459	1457	1459	1461	1467	1473	1469	1477
50	1299	1302	1303	1313	1313	1314	1319	1314	1313	1313	1303	1302	1299	1302	1303	1313	1313	1314	1319
55	1136	1136	1139	1147	1146	1149	1152	1149	1146	1147	1139	1136	1136	1136	1139	1147	1146	1149	1152
60	966	964	968	972	973	975	978	975	973	972	968	964	966	964	968	972	973	975	978
65	792	791	792	796	796	795	802	795	796	796	792	791	792	791	792	796	796	795	802
70	618	617	616	619	615	616	619	615	616	615	617	618	617	616	619	615	616	619	619
75	448	445	444	444	441	439	442	439	441	444	444	445	448	445	444	444	441	439	442
80	285	283	281	279	276	273	275	273	276	279	281	283	285	283	281	279	276	273	275
85	135	134	131	129	126	125	125	125	126	129	131	134	135	134	131	129	126	125	125
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	2205	2199	2208	2200	2205														
5	2193	2193	2193	2193	2190														
10	2162	2164	2163	2164	2164														
15	2116	2114	2116	2113	2116														
20	2053	2048	2051	2048	2049														
25	1965	1967	1961	1964	1960														
30	1862	1864	1862	1859	1859														
35	1748	1743	1747	1739	1736														
40	1615	1613	1613	1607	1603														
45	1469	1473	1467	1461	1459														
50	1314	1313	1313	1303	1302														
55	1149	1146	1147	1139	1136														
60	975	973	972	968	964														
65	795	796	796	792	791														
70	616	615	619	616	617														
75	439	441	444	444	445														
80	273	276	279	281	283														
85	125	126	129	131	134														
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 @50W4000K	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	0.399	47.5	0.993	10.89
277.0	60	0.173	46.4	0.969	12.29

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*****