

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

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Revised Date: N/A

1.0 Test Summary

DLC Technical Requirements V5.1

1x4 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	1500		4639
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	118.7
		110	125	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		39.1
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	12.18
			277V	15.07
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.993
			277V	0.974
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	3985±275	3991
		4 steps	3985±154	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥80		84.4
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥0		14
Minimum Rf (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥70		84
Minimum Rg (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥89		93
IES Rcs,h1 (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	-12%≤IES Rcs,h1≤+23%		-12%
Zonal Lumen Requirement (0°-60°) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	≥75%		77.9%
Discomfort Glare (UGR) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	21.5
		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		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		0.145
(Goniophotometer – Section 4.2)		Non-Worst Case		0.321
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		39.1
(Goniophotometer – Section 4.2)		Non-Worst Case		38.2

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-20	EZP1X4 @40W4000K	-	250117001-S1
2	Goniophotometer Test	2025-01-20	EZP1X4 @40W4000K	-	250117001-S1
3	THD and PF Test	2025-01-20	EZP1X4 @40W4000K	-	250117001-S1

Remark (If any):

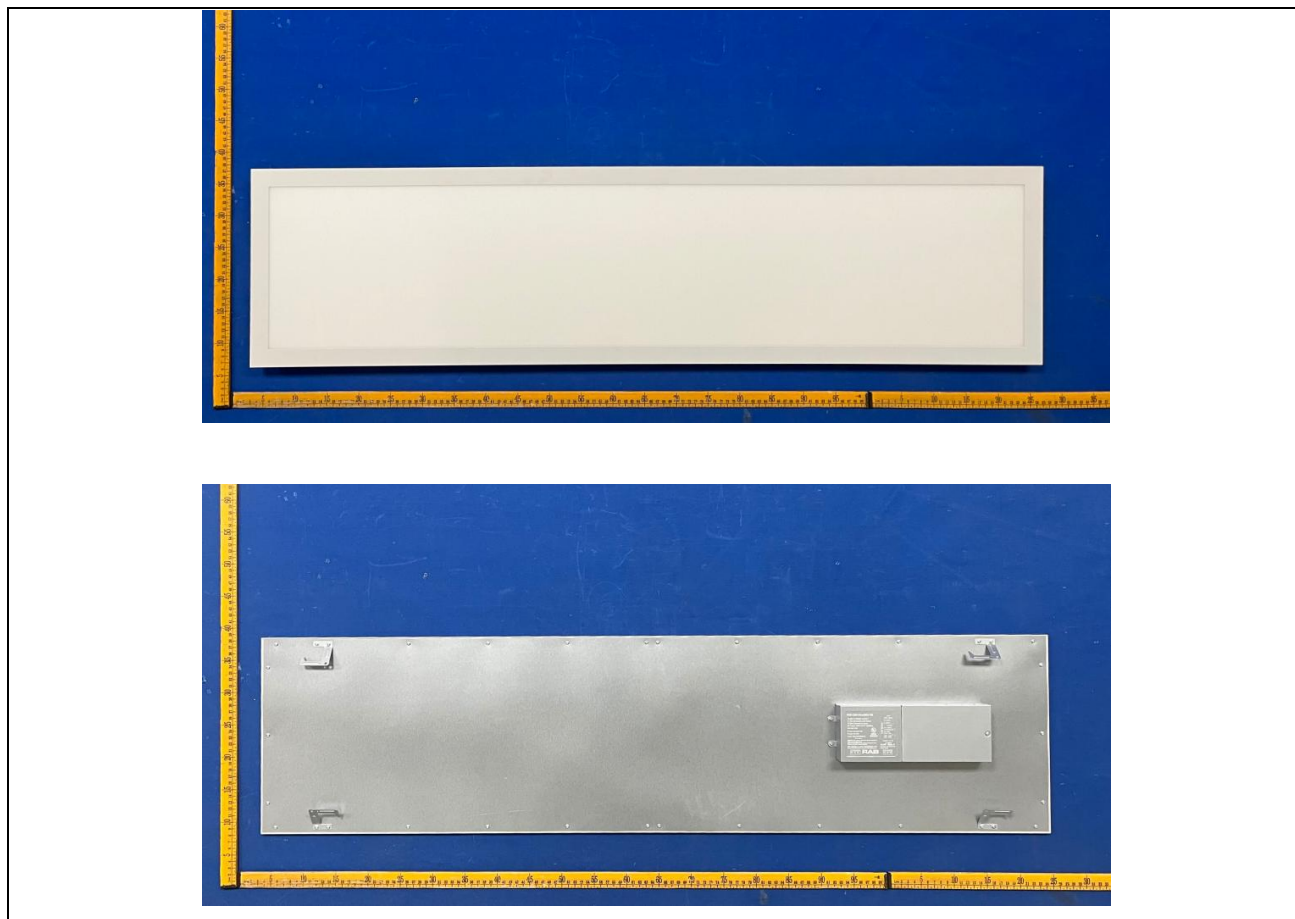
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3.0 Product Description

Luminaire Description: Model No. EZP1X4 @40W4000K, color tunable from 3500K, 4000K and 5000K.

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

Photos of Luminaire Characteristics



4.0 LM-79 Measurement and Test Results

4.1 Integrating Sphere Test

Model No.	EZP1X4 @40W4000K	Sample ID	250117001-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

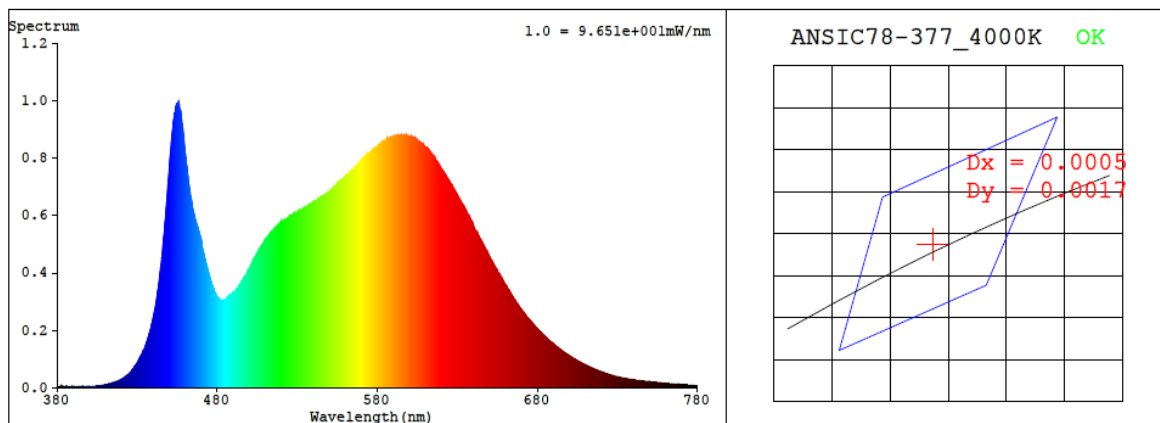
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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	0.321	38.2	0.993
277.0	60	0.145	39.1	0.974

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
3991	84.4	14	0.0007	84	93	-12%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3813$ $y = 0.3787$ / $u' = 0.2249$ $v' = 0.5026$ ($duv=6.70e-04$)

CCT= 3991K Prcp WL: Ld=578.7nm Purity=28.1%

Peak WL: Lp=456nm FWHM: =24.4nm Ratio:R=18.6% G=77.4% B=4.0%

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

EEL: 0.11140 A+

R1 =83	R2 =93	R3 =96	R4 =81	R5 =83	R6 =89	R7 =85
R8 =65	R9 =14	R10=82	R11=80	R12=63	R13=86	R14=98
						R15=77

4.1 Integrating Sphere Test

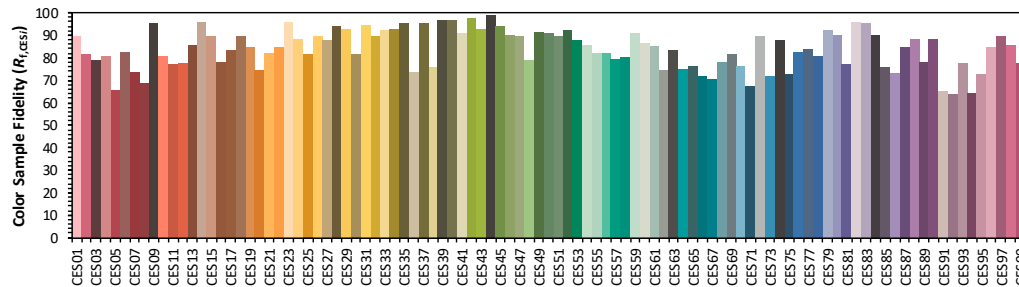
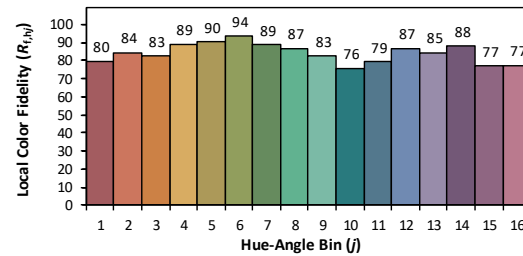
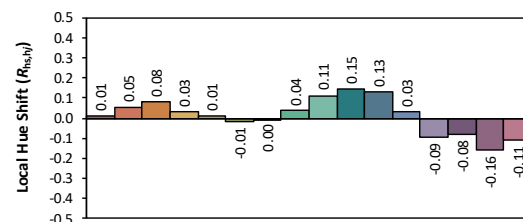
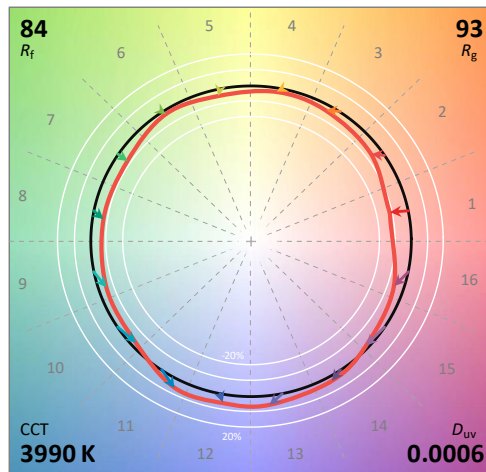
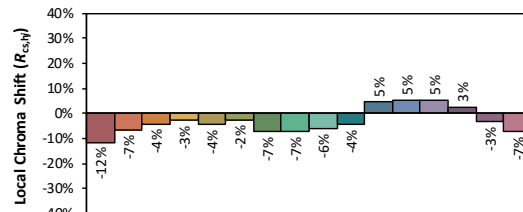
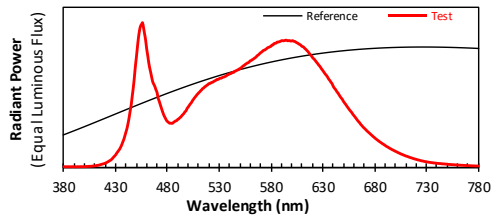
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/21

Model: EZP1X4 @40W4000K



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

x 0.3813
 y 0.3786
 u' 0.2249
 v' 0.5025

CIE 13.3-1995
(CRI)
 R_a 84
 R_g 14

4.1 Integrating Sphere Test

Spectral Distribution over Visible Wavelength											
WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)
380	4.50E-06	447	5.48E-04	514	5.45E-04	581	8.46E-04	648	4.79E-04	715	6.65E-05
381	4.00E-06	448	6.15E-04	515	5.48E-04	582	8.47E-04	649	4.70E-04	716	6.45E-05
382	3.90E-06	449	6.94E-04	516	5.57E-04	583	8.56E-04	650	4.57E-04	717	6.18E-05
383	3.10E-06	450	7.59E-04	517	5.61E-04	584	8.58E-04	651	4.47E-04	718	5.95E-05
384	4.30E-06	451	8.29E-04	518	5.67E-04	585	8.60E-04	652	4.37E-04	719	5.72E-05
385	3.30E-06	452	8.95E-04	519	5.71E-04	586	8.66E-04	653	4.27E-04	720	5.54E-05
386	3.80E-06	453	9.43E-04	520	5.79E-04	587	8.67E-04	654	4.16E-04	721	5.32E-05
387	3.40E-06	454	9.77E-04	521	5.80E-04	588	8.69E-04	655	4.07E-04	722	5.10E-05
388	4.10E-06	455	9.89E-04	522	5.85E-04	589	8.71E-04	656	3.97E-04	723	4.96E-05
389	4.00E-06	456	1.00E-03	523	5.87E-04	590	8.75E-04	657	3.88E-04	724	4.74E-05
390	3.20E-06	457	9.63E-04	524	5.90E-04	591	8.77E-04	658	3.80E-04	725	4.56E-05
391	3.60E-06	458	9.21E-04	525	5.95E-04	592	8.76E-04	659	3.69E-04	726	4.39E-05
392	2.90E-06	459	8.79E-04	526	5.99E-04	593	8.77E-04	660	3.59E-04	727	4.27E-05
393	4.10E-06	460	8.19E-04	527	6.03E-04	594	8.79E-04	661	3.50E-04	728	4.08E-05
394	4.00E-06	461	7.74E-04	528	6.09E-04	595	8.79E-04	662	3.41E-04	729	3.93E-05
395	3.80E-06	462	7.22E-04	529	6.08E-04	596	8.76E-04	663	3.31E-04	730	3.84E-05
396	4.20E-06	463	6.85E-04	530	6.13E-04	597	8.77E-04	664	3.21E-04	731	3.69E-05
397	4.40E-06	464	6.52E-04	531	6.17E-04	598	8.77E-04	665	3.14E-04	732	3.54E-05
398	4.00E-06	465	6.17E-04	532	6.17E-04	599	8.74E-04	666	3.05E-04	733	3.42E-05
399	4.20E-06	466	5.88E-04	533	6.21E-04	600	8.75E-04	667	2.95E-04	734	3.34E-05
400	4.50E-06	467	5.73E-04	534	6.24E-04	601	8.77E-04	668	2.88E-04	735	3.22E-05
401	5.30E-06	468	5.57E-04	535	6.26E-04	602	8.72E-04	669	2.79E-04	736	3.16E-05
402	5.30E-06	469	5.35E-04	536	6.30E-04	603	8.71E-04	670	2.72E-04	737	3.03E-05
403	5.80E-06	470	5.18E-04	537	6.33E-04	604	8.67E-04	671	2.65E-04	738	2.97E-05
404	6.40E-06	471	4.80E-04	538	6.40E-04	605	8.62E-04	672	2.58E-04	739	2.89E-05
405	6.50E-06	472	4.60E-04	539	6.42E-04	606	8.59E-04	673	2.50E-04	740	2.78E-05
406	6.90E-06	473	4.37E-04	540	6.47E-04	607	8.53E-04	674	2.44E-04	741	2.72E-05
407	7.70E-06	474	4.14E-04	541	6.48E-04	608	8.50E-04	675	2.38E-04	742	2.64E-05
408	8.30E-06	475	3.92E-04	542	6.52E-04	609	8.44E-04	676	2.31E-04	743	2.59E-05
409	8.60E-06	476	3.71E-04	543	6.57E-04	610	8.37E-04	677	2.24E-04	744	2.54E-05
410	1.05E-05	477	3.54E-04	544	6.57E-04	611	8.35E-04	678	2.18E-04	745	2.43E-05
411	1.04E-05	478	3.40E-04	545	6.64E-04	612	8.29E-04	679	2.11E-04	746	2.36E-05
412	1.31E-05	479	3.26E-04	546	6.67E-04	613	8.21E-04	680	2.05E-04	747	2.32E-05
413	1.39E-05	480	3.17E-04	547	6.71E-04	614	8.14E-04	681	1.99E-04	748	2.28E-05
414	1.51E-05	481	3.11E-04	548	6.74E-04	615	8.07E-04	682	1.94E-04	749	2.19E-05
415	1.75E-05	482	3.06E-04	549	6.80E-04	616	7.99E-04	683	1.88E-04	750	2.17E-05
416	1.93E-05	483	3.05E-04	550	6.82E-04	617	7.89E-04	684	1.83E-04	751	2.04E-05
417	2.19E-05	484	3.04E-04	551	6.88E-04	618	7.80E-04	685	1.77E-04	752	1.98E-05
418	2.34E-05	485	3.05E-04	552	6.93E-04	619	7.72E-04	686	1.73E-04	753	1.94E-05
419	2.56E-05	486	3.11E-04	553	7.01E-04	620	7.62E-04	687	1.67E-04	754	1.87E-05
420	2.84E-05	487	3.16E-04	554	7.05E-04	621	7.53E-04	688	1.62E-04	755	1.84E-05
421	3.18E-05	488	3.21E-04	555	7.11E-04	622	7.47E-04	689	1.58E-04	756	1.79E-05
422	3.60E-05	489	3.23E-04	556	7.15E-04	623	7.38E-04	690	1.53E-04	757	1.75E-05
423	3.97E-05	490	3.32E-04	557	7.22E-04	624	7.28E-04	691	1.48E-04	758	1.67E-05
424	4.45E-05	491	3.35E-04	558	7.23E-04	625	7.19E-04	692	1.43E-04	759	1.63E-05
425	4.88E-05	492	3.43E-04	559	7.29E-04	626	7.09E-04	693	1.39E-04	760	1.59E-05
426	5.39E-05	493	3.48E-04	560	7.37E-04	627	7.01E-04	694	1.35E-04	761	1.52E-05
427	6.18E-05	494	3.58E-04	561	7.39E-04	628	6.91E-04	695	1.31E-04	762	1.48E-05
428	7.01E-05	495	3.65E-04	562	7.45E-04	629	6.80E-04	696	1.27E-04	763	1.46E-05
429	7.81E-05	496	3.74E-04	563	7.49E-04	630	6.71E-04	697	1.22E-04	764	1.40E-05
430	8.57E-05	497	3.84E-04	564	7.55E-04	631	6.61E-04	698	1.19E-04	765	1.38E-05
431	9.73E-05	498	3.91E-04	565	7.59E-04	632	6.50E-04	699	1.15E-04	766	1.31E-05
432	1.07E-04	499	4.07E-04	566	7.67E-04	633	6.41E-04	700	1.12E-04	767	1.29E-05
433	1.17E-04	500	4.16E-04	567	7.74E-04	634	6.33E-04	701	1.08E-04	768	1.24E-05
434	1.28E-04	501	4.27E-04	568	7.79E-04	635	6.21E-04	702	1.05E-04	769	1.20E-05
435	1.41E-04	502	4.38E-04	569	7.86E-04	636	6.09E-04	703	1.01E-04	770	1.14E-05
436	1.57E-04	503	4.46E-04	570	7.93E-04	637	6.00E-04	704	9.77E-05	771	1.14E-05
437	1.77E-04	504	4.58E-04	571	7.97E-04	638	5.89E-04	705	9.42E-05	772	1.10E-05
438	1.95E-04	505	4.69E-04	572	8.04E-04	639	5.79E-04	706	9.07E-05	773	1.08E-05
439	2.20E-04	506	4.79E-04	573	8.10E-04	640	5.64E-04	707	8.85E-05	774	1.02E-05
440	2.45E-04	507	4.88E-04	574	8.11E-04	641	5.50E-04	708	8.49E-05	775	1.00E-05
441	2.70E-04	508	4.97E-04	575	8.17E-04	642	5.42E-04	709	8.22E-05	776	9.90E-06
442	3.04E-04	509	5.06E-04	576	8.22E-04	643	5.31E-04	710	7.88E-05	777	9.40E-06
443	3.42E-04	510	5.14E-04	577	8.28E-04	644	5.21E-04	711	7.67E-05	778	9.00E-06
444	3.88E-04	511	5.20E-04	578	8.31E-04	645	5.12E-04	712	7.45E-05	779	8.90E-06
445	4.31E-04	512	5.29E-04	579	8.34E-04	646	5.00E-04	713	7.16E-05	780	9.00E-06
446	4.90E-04	513	5.36E-04	580	8.38E-04	647	4.88E-04	714	6.89E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	EZP1X4 @40W4000K	Sample ID	250117001-S1
Operate time (Min.)	30	Stabilization time (Min.)	60
Temperature (°C)	24.9	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 $25\pm1^{\circ}\text{C}$, 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	277.0	60	0.145	39.1	0.974
NON-WORST CASE	120.0	60	0.321	38.2	0.993

Test Result

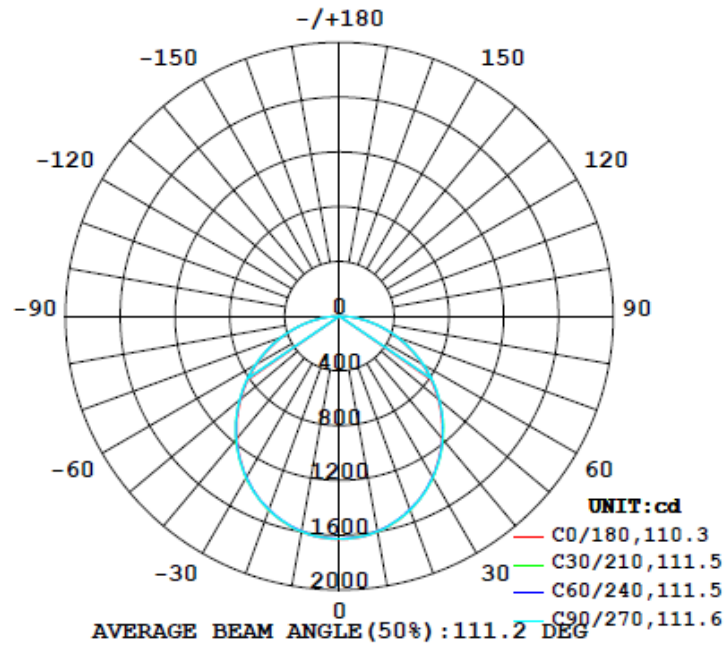
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement (0°-60°)
	C0-180	C90-270	C0-180	C90-270		
4639	164.3	164.4	110.3	111.4	118.7	77.9%

UGR		Spacing Criterion	
Crosswise	Endwise	(0°-180°)	(90°-270°)
21.5	21.5	1.26	1.26

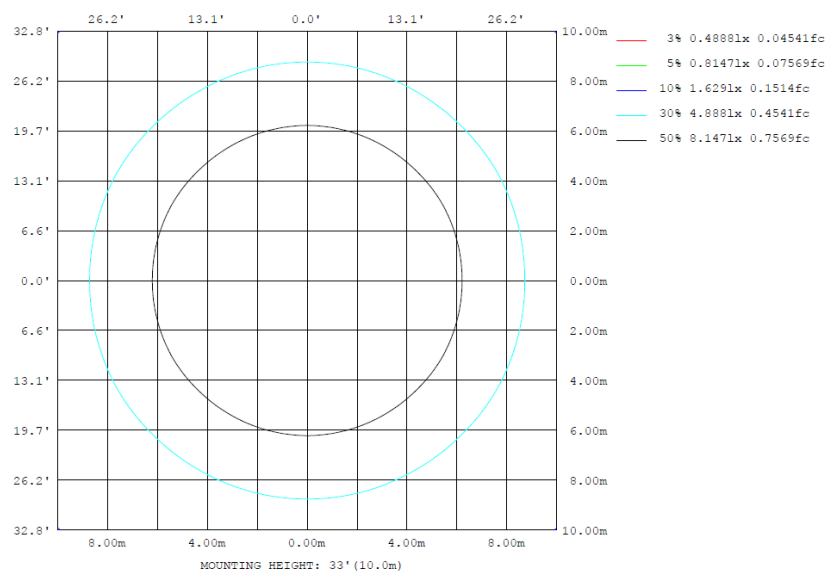
4.2 Goniophotometer Test

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	Φ zone	Φ total	lum, lamp
10	1598	1592	1596	1592	1598	1592	1596	1592	0- 10	153.8	153.8	3.32,3.32
20	1508	1501	1506	1501	1508	1501	1506	1501	10- 20	439.5	593.3	12.8,12.8
30	1362	1357	1363	1357	1362	1357	1363	1357	20- 30	663.2	1257	27.1,27.1
40	1166	1171	1175	1171	1166	1171	1175	1171	30- 40	795.0	2052	44.2,44.2
50	939.5	948.9	953.3	948.9	939.5	948.9	953.3	948.9	40- 50	820.5	2872	61.9,61.9
60	696.5	705.0	707.8	705.0	696.5	705.0	707.8	705.0	50- 60	740.8	3613	77.9,77.9
70	446.1	450.1	452.1	450.1	446.1	450.1	452.1	450.1	60- 70	571.3	4184	90.2,90.2
80	206.6	208.0	207.4	208.0	206.6	208.0	207.4	208.0	70- 80	345.0	4529	97.6,97.6
90	0	0	0	0	0	0	0	0	80- 90	110.2	4639	100,100
100	0	0	0	0	0	0	0	0	90-100	0	4639	100,100
110	0	0	0	0	0	0	0	0	100-110	0	4639	100,100
120	0	0	0	0	0	0	0	0	110-120	0	4639	100,100
130	0	0	0	0	0	0	0	0	120-130	0	4639	100,100
140	0	0	0	0	0	0	0	0	130-140	0	4639	100,100
150	0	0	0	0	0	0	0	0	140-150	0	4639	100,100
160	0	0	0	0	0	0	0	0	150-160	0	4639	100,100
170	0	0	0	0	0	0	0	0	160-170	0	4639	100,100
180	0	0	0	0	0	0	0	0	170-180	0	4639	100,100
DEG	LUMINOUS INTENSITY: cd									UNIT: lm		

Zonal (lm)		Total (lm)		Percent
0-10	153.83	0-10	153.83	3.32%
10-20	439.52	0-20	593.35	12.79%
20-30	663.24	0-30	1256.59	27.09%
30-40	794.97	0-40	2051.56	44.22%
40-50	820.51	0-50	2872.07	61.91%
50-60	740.82	0-60	3612.89	77.87%
60-70	571.28	0-70	4184.17	90.19%
70-80	345.03	0-80	4529.20	97.63%
80-90	110.18	0-90	4639.38	100.00%
90-100	0.00	0-100	4639.38	100.00%
100-110	0.00	0-110	4639.38	100.00%
110-120	0.00	0-120	4639.38	100.00%
120-130	0.00	0-130	4639.38	100.00%
130-140	0.00	0-140	4639.38	100.00%
140-150	0.00	0-150	4639.38	100.00%
150-160	0.00	0-160	4639.38	100.00%
160-170	0.00	0-170	4639.38	100.00%
170-180	0.00	0-180	4639.38	100.00%

4.2 Goniophotometer Test

UGR – Uncorrected Table:

UGR TABLE - UNCORRECTED

Reflectances		70	70	50	50	30	70	70	50	50	30
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	11.6	13.2	11.9	13.5	13.9	11.6	13.3	12.0	13.6	13.9
	3H	13.5	15.0	13.8	15.3	15.6	13.5	15.0	13.9	15.3	15.7
	4H	14.2	15.6	14.6	15.9	16.3	14.2	15.7	14.6	16.0	16.4
	6H	14.8	16.1	15.2	16.4	16.8	14.8	16.1	15.2	16.5	16.9
	8H	15.0	16.2	15.4	16.6	17.0	15.0	16.3	15.5	16.7	17.1
	12H	15.1	16.3	15.6	16.7	17.1	15.2	16.4	15.6	16.8	17.2
4H	2H	12.2	13.7	12.6	14.0	14.4	12.3	13.7	12.7	14.0	14.4
	3H	14.4	15.5	14.8	15.9	16.3	14.4	15.6	14.8	16.0	16.4
	4H	15.2	16.3	15.7	16.7	17.2	15.3	16.3	15.7	16.7	17.2
	6H	16.0	16.9	16.4	17.3	17.8	16.0	16.9	16.4	17.4	17.8
	8H	16.2	17.1	16.7	17.5	18.0	16.2	17.1	16.7	17.6	18.0
	12H	16.4	17.2	16.9	17.7	18.2	16.5	17.3	16.9	17.7	18.2
8H	4H	15.6	16.5	16.0	16.9	17.4	15.6	16.5	16.1	16.9	17.4
	6H	16.4	17.2	16.9	17.7	18.1	16.5	17.2	17.0	17.7	18.2
	8H	16.8	17.5	17.3	18.0	18.5	16.8	17.5	17.3	18.0	18.5
	12H	17.1	17.7	17.6	18.2	18.8	17.1	17.7	17.6	18.2	18.8
12H	4H	15.6	16.4	16.1	16.9	17.4	15.7	16.5	16.1	16.9	17.4
	6H	16.5	17.2	17.1	17.7	18.2	16.6	17.2	17.1	17.7	18.2
	8H	17.0	17.5	17.5	18.0	18.6	17.0	17.6	17.5	18.0	18.6

Maximum UGR = 18.8

UGR – Corrected Table:

UGR TABLE - CORRECTED

Reflectances		70	70	50	50	30	70	70	50	50	30
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	16.9	18.5	17.2	18.8	19.2	16.9	18.6	17.3	18.9	19.2
	3H	18.8	20.3	19.1	20.6	20.9	18.8	20.3	19.2	20.6	21.0
	4H	19.5	20.9	19.9	21.2	21.6	19.5	21.0	19.9	21.3	21.7
	6H	20.1	21.4	20.5	21.7	22.1	20.1	21.4	20.5	21.8	22.2
	8H	20.3	21.5	20.7	21.9	22.3	20.3	21.6	20.8	22.0	22.4
	12H	20.4	21.6	20.9	22.0	22.4	20.5	21.7	20.9	22.1	22.5
4H	2H	17.5	19.0	17.9	19.3	19.7	17.6	19.0	18.0	19.3	19.7
	3H	19.7	20.8	20.1	21.2	21.6	19.7	20.9	20.1	21.3	21.7
	4H	20.5	21.6	21.0	22.0	22.5	20.6	21.6	21.0	22.0	22.5
	6H	21.3	22.2	21.7	22.6	23.1	21.3	22.2	21.7	22.7	23.1
	8H	21.5	22.4	22.0	22.8	23.3	21.5	22.4	22.0	22.9	23.3
	12H	21.7	22.5	22.2	23.0	23.5	21.8	22.6	22.2	23.0	23.5
8H	4H	20.9	21.8	21.3	22.2	22.7	20.9	21.8	21.4	22.2	22.7
	6H	21.7	22.5	22.2	23.0	23.4	21.8	22.5	22.3	23.0	23.5
	8H	22.1	22.8	22.6	23.3	23.8	22.1	22.8	22.6	23.3	23.8
	12H	22.4	23.0	22.9	23.5	24.1	22.4	23.0	22.9	23.5	24.1
12H	4H	20.9	21.7	21.4	22.2	22.7	21.0	21.8	21.4	22.2	22.7
	6H	21.8	22.5	22.4	23.0	23.5	21.9	22.5	22.4	23.0	23.5
	8H	22.3	22.8	22.8	23.3	23.9	22.3	22.9	22.8	23.3	23.9

Maximum UGR = 24.1

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	1629	1626	1626	1626	1626	1630	1626	1630	1626	1626	1626	1626	1629	1626	1626	1626	1626	1630	1626
5	1624	1617	1617	1617	1618	1621	1622	1621	1618	1617	1617	1617	1624	1617	1617	1617	1618	1621	1622
10	1598	1596	1598	1592	1593	1596	1596	1596	1593	1592	1598	1596	1598	1596	1598	1592	1593	1596	1598
15	1560	1558	1560	1556	1554	1560	1556	1560	1554	1556	1560	1558	1560	1558	1560	1556	1554	1560	1556
20	1508	1506	1510	1501	1503	1507	1506	1507	1503	1501	1510	1506	1508	1506	1510	1501	1503	1507	1506
25	1439	1440	1442	1434	1437	1441	1440	1441	1437	1434	1442	1440	1439	1440	1442	1434	1437	1441	1440
30	1362	1361	1365	1357	1358	1361	1363	1361	1358	1357	1365	1361	1362	1361	1365	1357	1358	1361	1363
35	1266	1271	1276	1272	1271	1270	1274	1270	1271	1272	1276	1271	1266	1271	1276	1272	1271	1270	1274
40	1166	1170	1176	1171	1170	1173	1175	1173	1170	1171	1176	1170	1166	1170	1176	1171	1170	1173	1175
45	1055	1059	1068	1063	1065	1066	1068	1066	1063	1068	1059	1055	1059	1068	1063	1065	1066	1068	1066
50	939	946	952	949	949	952	953	952	949	949	952	946	939	946	952	949	949	952	953
55	819	823	832	828	832	832	832	832	828	832	823	819	823	832	828	832	832	832	832
60	697	699	707	705	705	707	708	707	705	705	707	699	697	699	707	705	705	707	708
65	571	574	580	577	578	579	581	579	578	577	580	574	571	574	580	577	578	579	581
70	446	448	452	450	450	452	452	450	450	452	448	446	448	450	450	452	450	452	452
75	324	325	328	326	326	326	327	326	325	326	328	325	324	325	328	326	326	326	327
80	207	209	210	208	208	207	207	207	208	208	210	209	207	209	210	208	208	207	207
85	98.9	99.7	100	99.7	99.0	98.6	99.2	98.6	99.0	99.7	100	99.7	98.9	99.7	100	99.7	99.0	98.6	99.2
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	1630	1626	1626	1626	1626														
5	1621	1618	1617	1617	1617														
10	1596	1593	1592	1598	1596														
15	1560	1554	1556	1560	1558														
20	1507	1503	1501	1510	1506														
25	1441	1437	1434	1442	1440														
30	1361	1358	1357	1365	1361														
35	1270	1271	1272	1276	1271														
40	1173	1170	1171	1176	1170														
45	1066	1065	1063	1068	1059														
50	952	949	949	952	946														
55	832	832	828	832	823														
60	707	705	705	707	699														
65	579	578	577	580	574														
70	452	450	450	452	448														
75	326	325	326	328	325														
80	207	208	208	210	209														
85	98.6	99.0	99.7	100	99.7														
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.	EZP1X4 @40W4000K	Sample ID	250117001-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	0.321	38.2	0.993	12.18
277.0	60	0.145	39.1	0.974	15.07

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*****