

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		4256
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	139.5
		110	125	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		30.5
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	11.38
			277V	11.80
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.993
			277V	0.953
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	3985±275	3957
		4 steps	3985±154	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥80		83.9
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥0		12
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	21.3
		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		0.116
(Goniophotometer – Section 4.2)		Non-Worst Case		0.251
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		30.5
(Goniophotometer – Section 4.2)		Non-Worst Case		29.9

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-17	EZP2X2 @30W4000K	-	250117002-S1
2	Goniophotometer Test	2025-01-17	EZP2X2 @30W4000K	-	250117002-S1
3	THD and PF Test	2025-01-17	EZP2X2 @30W4000K	-	250117002-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. EZP2X2 @30W4000K, 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.	EZP2X2 @30W4000K	Sample ID	250117002-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

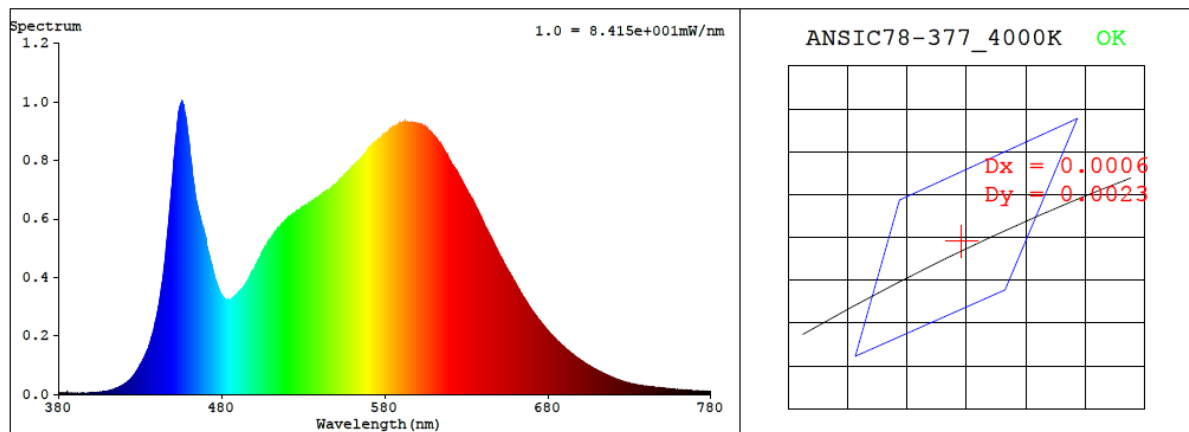
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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	0.251	29.9	0.993
277.0	60	0.116	30.5	0.953

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
3957	83.9	12	0.0009	84	93	-12%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3830$ $y = 0.3802$ / $u' = 0.2254$ $v' = 0.5035$ ($duv=8.72e-04$)

CCT= 3957K Prcp WL: Ld=578.8nm Purity=29.0%

Peak WL: Lp=456nm FWHM: =25.1nm Ratio:R=18.6% G=77.4% B=4.0%

Render Index: Ra = 83.9 AvgR = 77.8 TM30:Rf=84 Rg=94

EEI: 0.09486 A++ Highest

R1 =83 R2 =92 R3 =96 R4 =81 R5 =82 R6 =89 R7 =85

R8 =64 R9 =12 R10=81 R11=80 R12=63 R13=86 R14=98 R15=76

4.1 Integrating Sphere Test

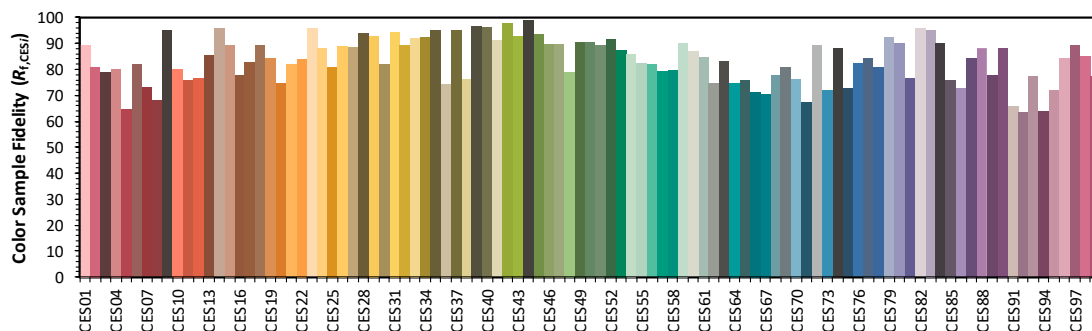
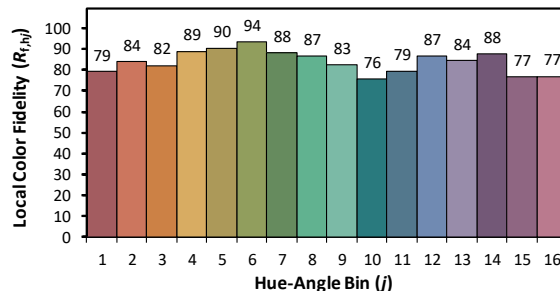
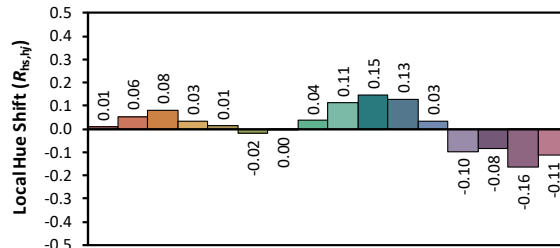
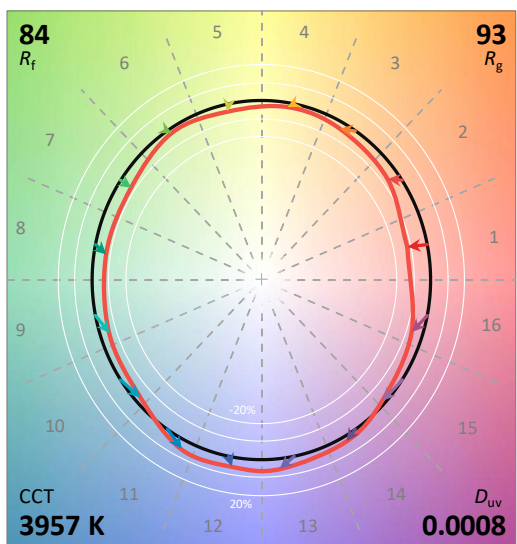
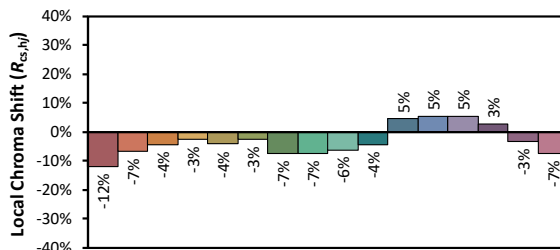
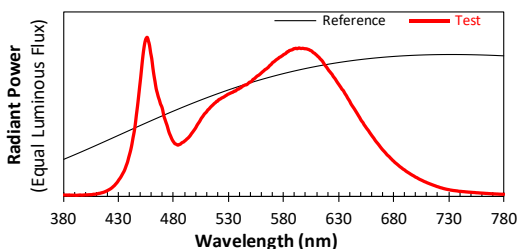
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/21

Model: EZP2X2 @30W4000K



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

x 0.3830
 y 0.3801
 u' 0.2254
 v' 0.5034

CIE 13.3-1995
(CRI)
 R_a 84
 R_g 11

4.1 Integrating Sphere Test

Spectral Distribution over Visible Wavelength											
WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)
380	5.70E-06	447	5.61E-04	514	5.62E-04	581	8.93E-04	648	5.04E-04	715	6.95E-05
381	5.00E-06	448	6.22E-04	515	5.68E-04	582	8.97E-04	649	4.93E-04	716	6.70E-05
382	4.30E-06	449	6.86E-04	516	5.75E-04	583	9.06E-04	650	4.80E-04	717	6.44E-05
383	5.10E-06	450	7.48E-04	517	5.82E-04	584	9.07E-04	651	4.69E-04	718	6.21E-05
384	3.30E-06	451	8.18E-04	518	5.87E-04	585	9.14E-04	652	4.61E-04	719	5.91E-05
385	5.70E-06	452	8.82E-04	519	5.95E-04	586	9.16E-04	653	4.48E-04	720	5.71E-05
386	3.70E-06	453	9.34E-04	520	5.96E-04	587	9.18E-04	654	4.39E-04	721	5.50E-05
387	4.20E-06	454	9.72E-04	521	6.06E-04	588	9.20E-04	655	4.28E-04	722	5.23E-05
388	4.10E-06	455	9.92E-04	522	6.08E-04	589	9.26E-04	656	4.19E-04	723	5.04E-05
389	3.90E-06	456	9.97E-04	523	6.13E-04	590	9.26E-04	657	4.11E-04	724	4.87E-05
390	3.80E-06	457	9.74E-04	524	6.17E-04	591	9.29E-04	658	4.00E-04	725	4.63E-05
391	3.00E-06	458	9.47E-04	525	6.20E-04	592	9.26E-04	659	3.90E-04	726	4.47E-05
392	3.30E-06	459	9.00E-04	526	6.24E-04	593	9.28E-04	660	3.80E-04	727	4.29E-05
393	3.90E-06	460	8.64E-04	527	6.29E-04	594	9.31E-04	661	3.70E-04	728	4.13E-05
394	4.60E-06	461	8.07E-04	528	6.33E-04	595	9.28E-04	662	3.61E-04	729	3.99E-05
395	5.40E-06	462	7.59E-04	529	6.38E-04	596	9.27E-04	663	3.50E-04	730	3.87E-05
396	4.10E-06	463	7.19E-04	530	6.41E-04	597	9.29E-04	664	3.41E-04	731	3.70E-05
397	4.40E-06	464	6.75E-04	531	6.45E-04	598	9.28E-04	665	3.33E-04	732	3.58E-05
398	4.90E-06	465	6.49E-04	532	6.48E-04	599	9.26E-04	666	3.25E-04	733	3.48E-05
399	5.50E-06	466	6.22E-04	533	6.50E-04	600	9.26E-04	667	3.15E-04	734	3.36E-05
400	6.10E-06	467	6.02E-04	534	6.53E-04	601	9.25E-04	668	3.06E-04	735	3.29E-05
401	5.50E-06	468	5.77E-04	535	6.59E-04	602	9.22E-04	669	2.97E-04	736	3.20E-05
402	6.40E-06	469	5.63E-04	536	6.59E-04	603	9.20E-04	670	2.89E-04	737	3.12E-05
403	6.60E-06	470	5.39E-04	537	6.65E-04	604	9.16E-04	671	2.82E-04	738	3.04E-05
404	7.10E-06	471	5.03E-04	538	6.71E-04	605	9.13E-04	672	2.74E-04	739	2.88E-05
405	7.00E-06	472	4.82E-04	539	6.72E-04	606	9.07E-04	673	2.66E-04	740	2.81E-05
406	8.00E-06	473	4.61E-04	540	6.78E-04	607	9.01E-04	674	2.58E-04	741	2.79E-05
407	9.80E-06	474	4.42E-04	541	6.80E-04	608	8.97E-04	675	2.52E-04	742	2.70E-05
408	9.70E-06	475	4.16E-04	542	6.87E-04	609	8.91E-04	676	2.46E-04	743	2.64E-05
409	1.07E-05	476	3.94E-04	543	6.91E-04	610	8.85E-04	677	2.38E-04	744	2.60E-05
410	1.20E-05	477	3.79E-04	544	6.95E-04	611	8.78E-04	678	2.31E-04	745	2.51E-05
411	1.36E-05	478	3.62E-04	545	6.98E-04	612	8.72E-04	679	2.24E-04	746	2.44E-05
412	1.52E-05	479	3.48E-04	546	6.99E-04	613	8.63E-04	680	2.18E-04	747	2.39E-05
413	1.60E-05	480	3.38E-04	547	7.03E-04	614	8.57E-04	681	2.10E-04	748	2.31E-05
414	1.82E-05	481	3.29E-04	548	7.10E-04	615	8.49E-04	682	2.05E-04	749	2.28E-05
415	2.00E-05	482	3.26E-04	549	7.16E-04	616	8.39E-04	683	1.99E-04	750	2.22E-05
416	2.19E-05	483	3.21E-04	550	7.17E-04	617	8.27E-04	684	1.93E-04	751	2.17E-05
417	2.43E-05	484	3.19E-04	551	7.23E-04	618	8.18E-04	685	1.87E-04	752	2.10E-05
418	2.74E-05	485	3.23E-04	552	7.32E-04	619	8.09E-04	686	1.82E-04	753	2.08E-05
419	3.06E-05	486	3.25E-04	553	7.36E-04	620	7.99E-04	687	1.77E-04	754	2.02E-05
420	3.41E-05	487	3.32E-04	554	7.42E-04	621	7.89E-04	688	1.71E-04	755	1.92E-05
421	3.79E-05	488	3.36E-04	555	7.49E-04	622	7.81E-04	689	1.66E-04	756	1.90E-05
422	4.17E-05	489	3.39E-04	556	7.55E-04	623	7.72E-04	690	1.62E-04	757	1.85E-05
423	4.63E-05	490	3.46E-04	557	7.58E-04	624	7.64E-04	691	1.56E-04	758	1.78E-05
424	5.18E-05	491	3.51E-04	558	7.63E-04	625	7.52E-04	692	1.51E-04	759	1.75E-05
425	5.82E-05	492	3.58E-04	559	7.69E-04	626	7.43E-04	693	1.47E-04	760	1.69E-05
426	6.41E-05	493	3.63E-04	560	7.76E-04	627	7.34E-04	694	1.43E-04	761	1.66E-05
427	7.22E-05	494	3.71E-04	561	7.82E-04	628	7.22E-04	695	1.38E-04	762	1.60E-05
428	7.98E-05	495	3.79E-04	562	7.88E-04	629	7.12E-04	696	1.34E-04	763	1.56E-05
429	8.86E-05	496	3.90E-04	563	7.95E-04	630	7.02E-04	697	1.30E-04	764	1.50E-05
430	9.97E-05	497	3.99E-04	564	7.98E-04	631	6.92E-04	698	1.26E-04	765	1.48E-05
431	1.09E-04	498	4.09E-04	565	8.04E-04	632	6.82E-04	699	1.22E-04	766	1.41E-05
432	1.19E-04	499	4.18E-04	566	8.09E-04	633	6.70E-04	700	1.17E-04	767	1.37E-05
433	1.32E-04	500	4.29E-04	567	8.18E-04	634	6.64E-04	701	1.14E-04	768	1.33E-05
434	1.44E-04	501	4.42E-04	568	8.24E-04	635	6.52E-04	702	1.10E-04	769	1.29E-05
435	1.57E-04	502	4.53E-04	569	8.31E-04	636	6.40E-04	703	1.06E-04	770	1.25E-05
436	1.74E-04	503	4.63E-04	570	8.39E-04	637	6.30E-04	704	1.02E-04	771	1.19E-05
437	1.94E-04	504	4.74E-04	571	8.43E-04	638	6.17E-04	705	9.93E-05	772	1.19E-05
438	2.13E-04	505	4.87E-04	572	8.49E-04	639	6.06E-04	706	9.60E-05	773	1.14E-05
439	2.40E-04	506	4.96E-04	573	8.55E-04	640	5.95E-04	707	9.25E-05	774	1.12E-05
440	2.65E-04	507	5.06E-04	574	8.60E-04	641	5.81E-04	708	8.90E-05	775	1.09E-05
441	2.92E-04	508	5.16E-04	575	8.65E-04	642	5.70E-04	709	8.67E-05	776	1.03E-05
442	3.26E-04	509	5.23E-04	576	8.71E-04	643	5.59E-04	710	8.32E-05	777	1.01E-05
443	3.66E-04	510	5.30E-04	577	8.74E-04	644	5.49E-04	711	8.04E-05	778	9.80E-06
444	4.01E-04	511	5.41E-04	578	8.79E-04	645	5.38E-04	712	7.76E-05	779	9.80E-06
445	4.48E-04	512	5.46E-04	579	8.84E-04	646	5.27E-04	713	7.48E-05	780	9.80E-06
446	5.07E-04	513	5.54E-04	580	8.89E-04	647	5.16E-04	714	7.23E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	EZP2X2 @30W4000K	Sample ID	250117002-S1
Operate time (Min.)	30	Stabilization time (Min.)	60
Temperature (°C)	24.6	Humidity (%RH)	42.2

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	277.0	60	0.116	30.5	0.953
NON-WORST CASE	120.0	60	0.251	29.9	0.993

Test Result

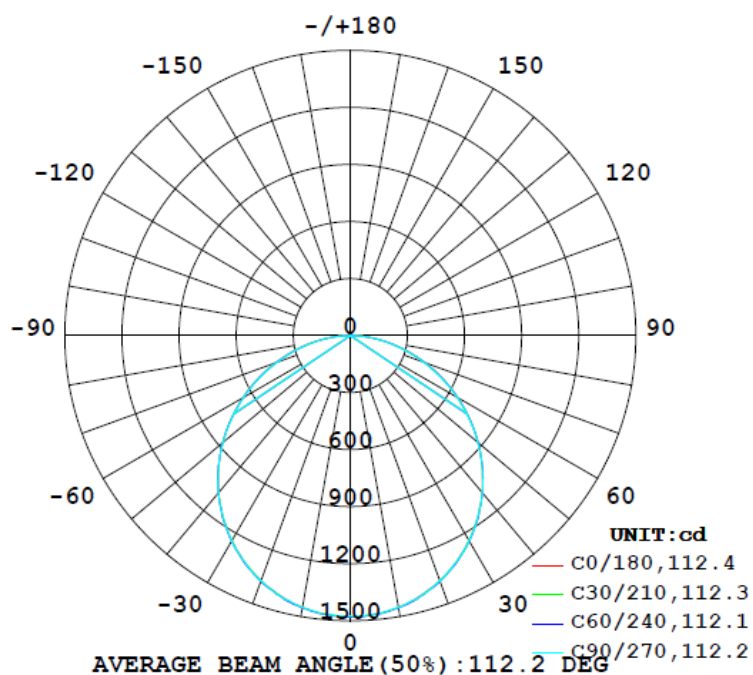
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement
	C0-180	C90-270	C0-180	C90-270		(0°-60°)
4256	164.8	164.1	112.4	112.0	139.5	77.9%

UGR		Spacing Criterion	
Crosswise	Endwise	(0°-180°)	(90°-270°)
21.3	21.2	1.26	1.26

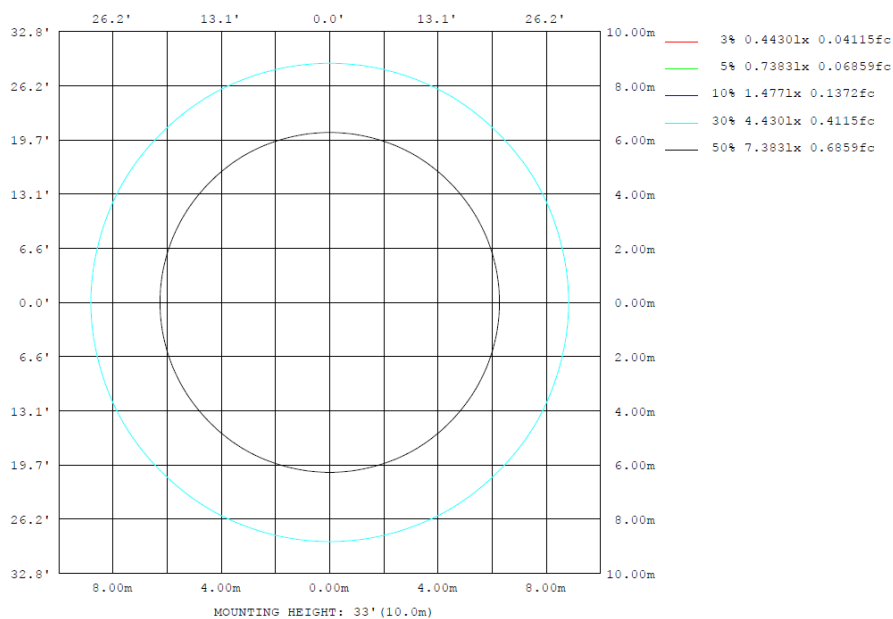
4.2 Goniophotometer Test

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	1452	1450	1452	1450	1452	1450	1452	1450	0- 10	139.7	139.7	3.28,3.28
20	1372	1372	1373	1372	1372	1372	1373	1372	10- 20	400.3	540.0	12.7,12.7
30	1246	1247	1249	1247	1246	1247	1249	1247	20- 30	606.0	1146	26.9,26.9
40	1078	1077	1079	1077	1078	1077	1079	1077	30- 40	729.5	1876	44.1,44.1
50	875.1	873.8	873.9	873.8	875.1	873.8	873.9	873.8	40- 50	755.6	2631	61.8,61.8
60	651.7	648.8	647.4	648.8	651.7	648.8	647.4	648.8	50- 60	682.8	3314	77.9,77.9
70	417.8	413.5	409.4	413.5	417.8	413.5	409.4	413.5	60- 70	525.9	3840	90.2,90.2
80	194.1	189.9	184.9	189.9	194.1	189.9	184.9	189.9	70- 80	316.1	4156	97.7,97.7
90	0	0	0	0	0	0	0	0	80- 90	99.84	4256	100,100
100	0	0	0	0	0	0	0	0	90-100	0	4256	100,100
110	0	0	0	0	0	0	0	0	100-110	0	4256	100,100
120	0	0	0	0	0	0	0	0	110-120	0	4256	100,100
130	0	0	0	0	0	0	0	0	120-130	0	4256	100,100
140	0	0	0	0	0	0	0	0	130-140	0	4256	100,100
150	0	0	0	0	0	0	0	0	140-150	0	4256	100,100
160	0	0	0	0	0	0	0	0	150-160	0	4256	100,100
170	0	0	0	0	0	0	0	0	160-170	0	4256	100,100
180	0	0	0	0	0	0	0	0	170-180	0	4256	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

	Zonal (lm)		Total (lm)	Percent
0-10	139.74	0-10	139.74	3.28%
10-20	400.27	0-20	540.01	12.69%
20-30	605.99	0-30	1146.00	26.93%
30-40	729.52	0-40	1875.52	44.07%
40-50	755.59	0-50	2631.11	61.83%
50-60	682.77	0-60	3313.88	77.87%
60-70	525.90	0-70	3839.78	90.23%
70-80	316.11	0-80	4155.89	97.65%
80-90	99.84	0-90	4255.73	100.00%
90-100	0.00	0-100	4255.73	100.00%
100-110	0.00	0-110	4255.73	100.00%
110-120	0.00	0-120	4255.73	100.00%
120-130	0.00	0-130	4255.73	100.00%
130-140	0.00	0-140	4255.73	100.00%
140-150	0.00	0-150	4255.73	100.00%
150-160	0.00	0-160	4255.73	100.00%
160-170	0.00	0-170	4255.73	100.00%
170-180	0.00	0-180	4255.73	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										
X=2H Y=2H		UGR Viewed Crosswise					UGR Viewed Endwise			
		11.6	13.3	12.0	13.6	13.9	11.6	13.3	12.0	13.6
	3H	13.5	15.0	13.9	15.4	15.7	13.5	15.0	13.9	15.3
	4H	14.3	15.7	14.7	16.0	16.4	14.2	15.6	14.6	16.0
	6H	14.9	16.2	15.3	16.5	16.9	14.8	16.1	15.2	16.4
	8H	15.1	16.3	15.5	16.7	17.1	15.0	16.2	15.4	16.6
	12H	15.2	16.4	15.7	16.8	17.3	15.1	16.3	15.5	16.7
4H	2H	12.3	13.7	12.7	14.1	14.4	12.3	13.7	12.7	14.0
	3H	14.4	15.6	14.8	16.0	16.4	14.4	15.6	14.8	16.0
	4H	15.3	16.4	15.7	16.8	17.2	15.2	16.3	15.7	16.7
	6H	16.0	17.0	16.5	17.4	17.9	15.9	16.9	16.4	17.3
	8H	16.3	17.2	16.8	17.6	18.1	16.2	17.1	16.6	17.5
	12H	16.5	17.3	17.0	17.8	18.3	16.4	17.2	16.9	17.6
8H	4H	15.6	16.5	16.1	17.0	17.4	15.6	16.5	16.0	16.9
	6H	16.5	17.3	17.0	17.7	18.2	16.4	17.1	16.9	17.6
	8H	16.9	17.5	17.4	18.0	18.5	16.7	17.4	17.3	17.9
	12H	17.2	17.8	17.7	18.3	18.8	17.0	17.6	17.5	18.1
12H	4H	15.7	16.5	16.2	17.0	17.4	15.6	16.4	16.1	16.9
	6H	16.6	17.3	17.1	17.7	18.3	16.5	17.2	17.0	17.6
	8H	17.0	17.6	17.5	18.1	18.7	16.9	17.5	17.4	18.0

Maximum UGR = 18.8

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			
		16.6	18.3	17.0	18.6	18.9	16.6	18.3	17.0	18.6
	3H	18.5	20.0	18.9	20.4	20.7	18.5	20.0	18.9	20.3
	4H	19.3	20.7	19.7	21.0	21.4	19.2	20.6	19.6	21.0
	6H	19.9	21.2	20.3	21.5	21.9	19.8	21.1	20.2	21.4
	8H	20.1	21.3	20.5	21.7	22.1	20.0	21.2	20.4	21.6
	12H	20.2	21.4	20.7	21.8	22.3	20.1	21.3	20.5	21.7
4H	2H	17.3	18.7	17.7	19.1	19.4	17.3	18.7	17.7	19.0
	3H	19.4	20.6	19.8	21.0	21.4	19.4	20.6	19.8	21.0
	4H	20.3	21.4	20.7	21.8	22.2	20.2	21.3	20.7	21.7
	6H	21.0	22.0	21.5	22.4	22.9	20.9	21.9	21.4	22.3
	8H	21.3	22.2	21.8	22.6	23.1	21.2	22.1	21.6	22.5
	12H	21.5	22.3	22.0	22.8	23.3	21.4	22.2	21.9	22.6
8H	4H	20.6	21.5	21.1	22.0	22.4	20.6	21.5	21.0	21.9
	6H	21.5	22.3	22.0	22.7	23.2	21.4	22.1	21.9	22.6
	8H	21.9	22.5	22.4	23.0	23.5	21.7	22.4	22.3	22.9
	12H	22.2	22.8	22.7	23.3	23.8	22.0	22.6	22.5	23.1
12H	4H	20.7	21.5	21.2	22.0	22.4	20.6	21.4	21.1	21.9
	6H	21.6	22.3	22.1	22.7	23.3	21.5	22.2	22.0	22.6
	8H	22.0	22.6	22.5	23.1	23.7	21.9	22.5	22.4	23.0

Maximum UGR = 23.8

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	1475	1474	1479	1476	1480	1477	1476	1477	1480	1476	1479	1474	1475	1474	1479	1476	1480	1477	1476
5	1470	1469	1470	1470	1473	1469	1470	1469	1473	1470	1470	1469	1470	1469	1470	1470	1473	1469	1470
10	1452	1449	1451	1450	1455	1451	1452	1451	1455	1450	1451	1449	1452	1449	1451	1450	1455	1451	1452
15	1417	1415	1419	1417	1420	1419	1420	1419	1420	1417	1419	1415	1417	1415	1419	1417	1420	1419	1420
20	1372	1371	1371	1372	1376	1374	1373	1374	1376	1372	1371	1371	1372	1371	1371	1372	1376	1374	1373
25	1314	1311	1316	1315	1318	1315	1314	1315	1318	1315	1316	1311	1314	1311	1316	1315	1318	1315	1314
30	1246	1244	1245	1247	1249	1247	1249	1247	1249	1247	1245	1244	1246	1244	1245	1247	1249	1247	1249
35	1168	1164	1166	1163	1170	1168	1166	1168	1170	1163	1166	1164	1168	1164	1166	1163	1170	1168	1166
40	1078	1075	1077	1077	1079	1080	1079	1080	1079	1077	1075	1078	1075	1077	1077	1079	1080	1079	1078
45	980	978	980	979	983	981	980	981	983	979	980	978	980	978	980	979	983	981	980
50	875	873	875	874	877	875	874	875	877	874	875	873	875	873	875	874	877	875	874
55	766	764	765	763	763	764	763	764	763	765	764	766	764	765	763	763	764	763	763
60	652	650	649	649	649	648	647	648	649	649	649	650	652	650	649	649	649	648	647
65	535	534	533	531	531	528	528	528	531	531	533	534	535	534	533	531	531	528	528
70	418	417	416	413	413	410	409	410	413	413	416	417	418	417	416	413	413	410	409
75	304	302	301	299	297	294	294	294	297	299	301	302	304	302	301	299	297	294	294
80	194	193	192	190	188	186	185	186	188	190	192	193	194	193	192	190	188	186	185
85	92.7	92.6	91.6	90.1	88.4	87.0	86.9	87.0	88.4	90.1	91.6	92.6	92.7	92.6	91.6	90.1	88.4	87.0	86.9
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	1477	1480	1476	1479	1474														
5	1469	1473	1470	1470	1469														
10	1451	1455	1450	1451	1449														
15	1419	1420	1417	1419	1415														
20	1374	1376	1372	1371	1371														
25	1315	1318	1315	1316	1311														
30	1247	1249	1247	1245	1244														
35	1168	1170	1163	1166	1164														
40	1080	1079	1077	1077	1075														
45	981	983	979	980	978														
50	875	877	874	875	873														
55	764	763	763	765	764														
60	648	649	649	649	650														
65	528	531	531	533	534														
70	410	413	413	416	417														
75	294	297	299	301	302														
80	186	188	190	192	193														
85	87.0	88.4	90.1	91.6	92.6														
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.	EZP2X2 @30W4000K	Sample ID	250117002-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	0.251	29.9	0.993	11.38
277.0	60	0.116	30.5	0.953	11.80

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*****