

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		3980
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	126.8
		110	125	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		31.4
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	11.06
			277V	12.10
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.994
			277V	0.956
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	3465±245	3350
		4 steps	3465±124	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥80		82.6
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		95
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	21.1
		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		0.119
(Goniophotometer – Section 4.2)		Non-Worst Case		0.258
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		31.4
(Goniophotometer – Section 4.2)		Non-Worst Case		30.8

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-17	EZP2X2 @30W3500K	-	250117002-S1
2	Goniophotometer Test	2025-01-17	EZP2X2 @30W3500K	-	250117002-S1
3	THD and PF Test	2025-01-17	EZP2X2 @30W3500K	-	250117002-S1

Remark (If any):

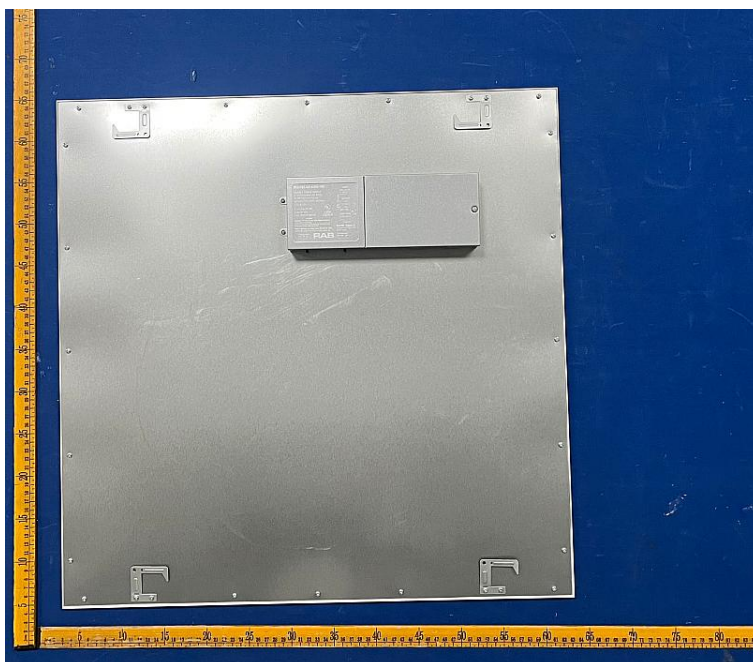
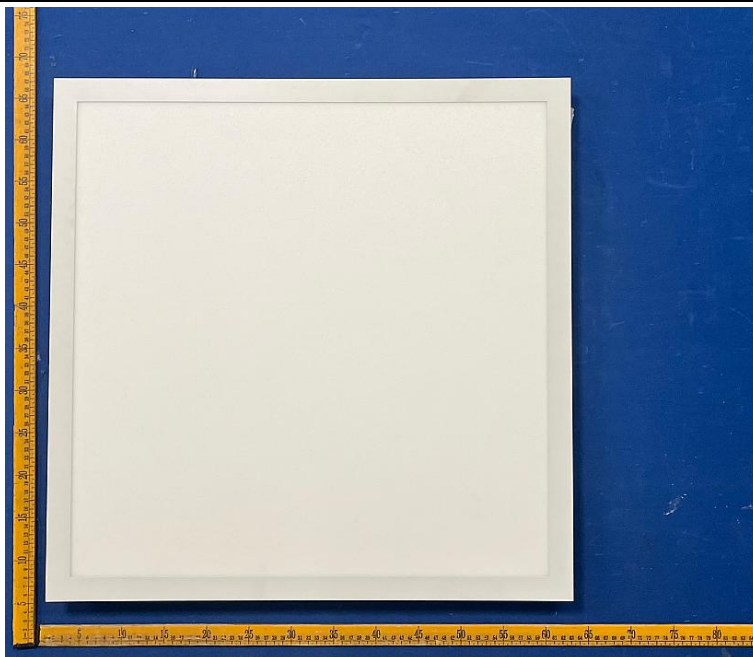
1. The results contained in this report pertain only to the tested samples.
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3.0 Product Description

Luminaire Description: Model No. EZP2X2 @30W3500K, 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 @30W3500K	Sample ID	250117002-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

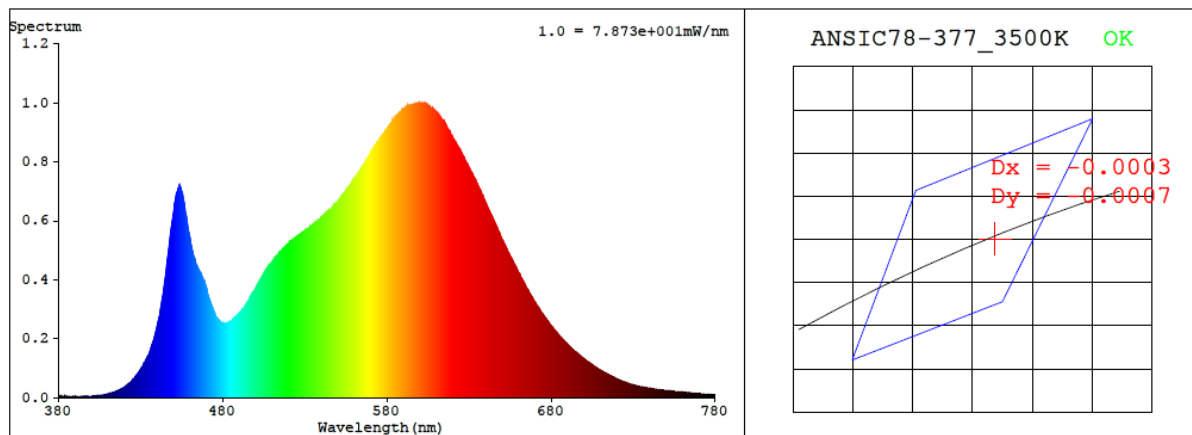
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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	0.258	30.8	0.994
277.0	60	0.119	31.4	0.956

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
3350	82.6	5	-0.0002	84	95	-12%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4137$ $y = 0.3942$ / $u' = 0.2397$ $v' = 0.5139$ ($duv = -2.48e-04$)

CCT= 3350K Prcp WL: $L_d = 581.5nm$ Purity=42.5%

Peak WL: $L_p = 599nm$ FWHM: $= 138.3nm$ Ratio: R=20.9% G=76.0% B=3.1%

Render Index: $R_a = 82.6$ AvgR = 76.6 TM30: $R_f = 84$ $R_g = 95$

EEL: 0.10434 A++ Highest

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

R8 =60 R9 =5 R10=80 R11=79 R12=68 R13=84 R14=98 R15=74

4.1 Integrating Sphere Test

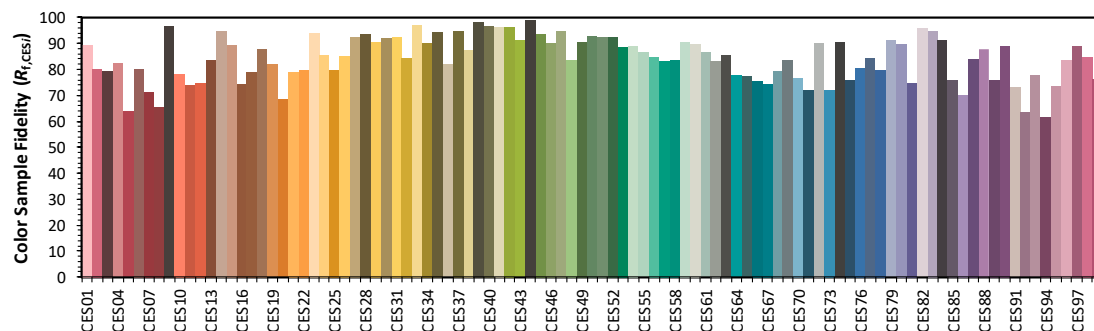
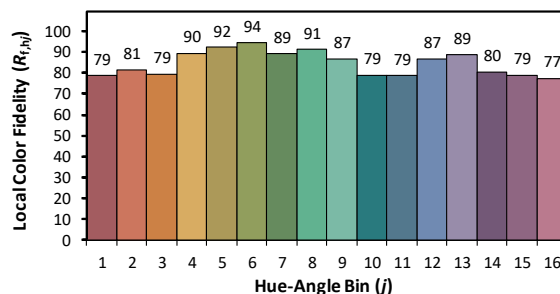
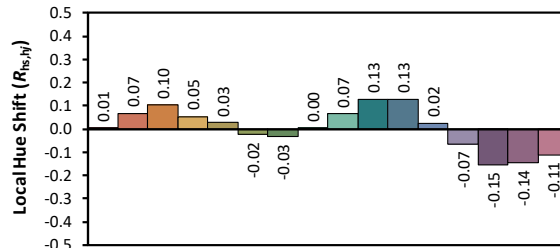
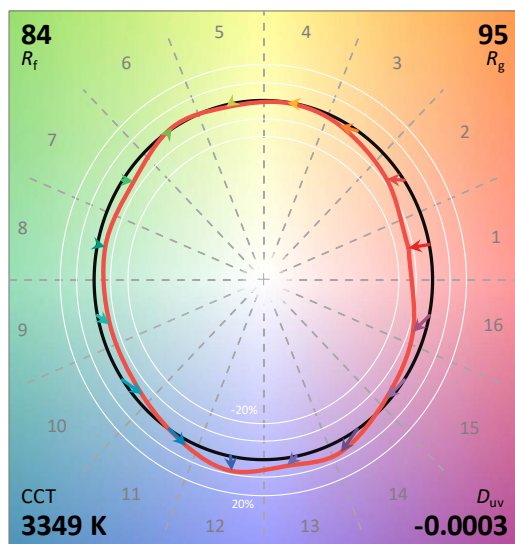
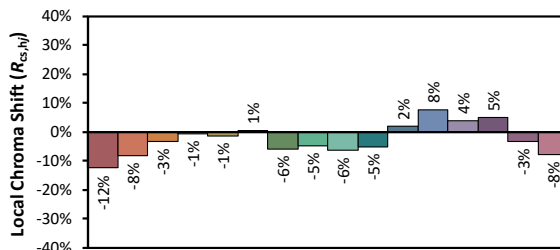
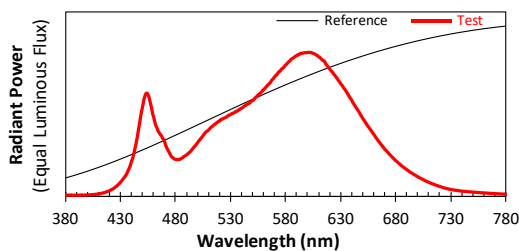
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/21

Model: EZP2X2 @30W3500K



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

x 0.4137
 y 0.3941
 u' 0.2398
 v' 0.5139

CIE 13.3-1995
(CRI)

R_a 83
 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	6.00E-06	447	4.98E-04	514	4.88E-04	581	9.18E-04	648	5.64E-04	715	7.79E-05
381	2.40E-06	448	5.47E-04	515	4.95E-04	582	9.27E-04	649	5.52E-04	716	7.46E-05
382	3.80E-06	449	5.90E-04	516	5.00E-04	583	9.35E-04	650	5.38E-04	717	7.20E-05
383	3.40E-06	450	6.26E-04	517	5.06E-04	584	9.41E-04	651	5.28E-04	718	6.94E-05
384	3.80E-06	451	6.67E-04	518	5.12E-04	585	9.51E-04	652	5.16E-04	719	6.62E-05
385	4.70E-06	452	6.94E-04	519	5.19E-04	586	9.56E-04	653	5.04E-04	720	6.38E-05
386	2.60E-06	453	7.11E-04	520	5.21E-04	587	9.61E-04	654	4.92E-04	721	6.16E-05
387	3.20E-06	454	7.13E-04	521	5.31E-04	588	9.66E-04	655	4.81E-04	722	5.87E-05
388	3.10E-06	455	7.00E-04	522	5.32E-04	589	9.73E-04	656	4.71E-04	723	5.59E-05
389	4.20E-06	456	6.77E-04	523	5.36E-04	590	9.75E-04	657	4.60E-04	724	5.42E-05
390	4.00E-06	457	6.43E-04	524	5.41E-04	591	9.83E-04	658	4.49E-04	725	5.19E-05
391	2.90E-06	458	6.12E-04	525	5.43E-04	592	9.82E-04	659	4.38E-04	726	5.03E-05
392	2.80E-06	459	5.70E-04	526	5.48E-04	593	9.89E-04	660	4.27E-04	727	4.85E-05
393	4.00E-06	460	5.46E-04	527	5.53E-04	594	9.92E-04	661	4.17E-04	728	4.62E-05
394	3.90E-06	461	5.12E-04	528	5.59E-04	595	9.92E-04	662	4.04E-04	729	4.44E-05
395	4.40E-06	462	4.88E-04	529	5.62E-04	596	9.94E-04	663	3.95E-04	730	4.35E-05
396	4.10E-06	463	4.71E-04	530	5.66E-04	597	9.96E-04	664	3.83E-04	731	4.19E-05
397	3.50E-06	464	4.50E-04	531	5.71E-04	598	9.96E-04	665	3.73E-04	732	4.02E-05
398	4.20E-06	465	4.38E-04	532	5.73E-04	599	9.96E-04	666	3.63E-04	733	3.91E-05
399	4.90E-06	466	4.26E-04	533	5.79E-04	600	9.98E-04	667	3.53E-04	734	3.76E-05
400	5.00E-06	467	4.17E-04	534	5.81E-04	601	9.99E-04	668	3.44E-04	735	3.69E-05
401	5.40E-06	468	4.00E-04	535	5.88E-04	602	9.98E-04	669	3.34E-04	736	3.55E-05
402	5.00E-06	469	3.91E-04	536	5.89E-04	603	9.98E-04	670	3.25E-04	737	3.48E-05
403	6.60E-06	470	3.73E-04	537	5.95E-04	604	9.94E-04	671	3.16E-04	738	3.38E-05
404	7.10E-06	471	3.47E-04	538	6.01E-04	605	9.91E-04	672	3.07E-04	739	3.26E-05
405	6.90E-06	472	3.31E-04	539	6.05E-04	606	9.88E-04	673	3.00E-04	740	3.15E-05
406	8.30E-06	473	3.16E-04	540	6.11E-04	607	9.83E-04	674	2.91E-04	741	3.08E-05
407	9.00E-06	474	3.02E-04	541	6.15E-04	608	9.80E-04	675	2.82E-04	742	3.01E-05
408	9.80E-06	475	2.87E-04	542	6.21E-04	609	9.74E-04	676	2.75E-04	743	2.95E-05
409	1.13E-05	476	2.73E-04	543	6.27E-04	610	9.67E-04	677	2.67E-04	744	2.90E-05
410	1.20E-05	477	2.66E-04	544	6.32E-04	611	9.63E-04	678	2.59E-04	745	2.80E-05
411	1.41E-05	478	2.61E-04	545	6.37E-04	612	9.55E-04	679	2.51E-04	746	2.74E-05
412	1.49E-05	479	2.55E-04	546	6.39E-04	613	9.48E-04	680	2.44E-04	747	2.65E-05
413	1.74E-05	480	2.53E-04	547	6.44E-04	614	9.41E-04	681	2.38E-04	748	2.60E-05
414	1.86E-05	481	2.51E-04	548	6.52E-04	615	9.38E-04	682	2.31E-04	749	2.53E-05
415	2.12E-05	482	2.51E-04	549	6.60E-04	616	9.24E-04	683	2.24E-04	750	2.48E-05
416	2.35E-05	483	2.53E-04	550	6.63E-04	617	9.11E-04	684	2.17E-04	751	2.42E-05
417	2.61E-05	484	2.54E-04	551	6.69E-04	618	9.04E-04	685	2.10E-04	752	2.37E-05
418	2.89E-05	485	2.60E-04	552	6.80E-04	619	8.93E-04	686	2.04E-04	753	2.26E-05
419	3.16E-05	486	2.62E-04	553	6.86E-04	620	8.83E-04	687	1.99E-04	754	2.23E-05
420	3.45E-05	487	2.70E-04	554	6.94E-04	621	8.72E-04	688	1.93E-04	755	2.16E-05
421	3.99E-05	488	2.75E-04	555	7.02E-04	622	8.64E-04	689	1.86E-04	756	2.13E-05
422	4.36E-05	489	2.79E-04	556	7.10E-04	623	8.54E-04	690	1.81E-04	757	2.06E-05
423	4.82E-05	490	2.85E-04	557	7.16E-04	624	8.43E-04	691	1.75E-04	758	2.00E-05
424	5.24E-05	491	2.91E-04	558	7.22E-04	625	8.35E-04	692	1.70E-04	759	1.94E-05
425	5.99E-05	492	2.99E-04	559	7.32E-04	626	8.24E-04	693	1.65E-04	760	1.93E-05
426	6.40E-05	493	3.04E-04	560	7.40E-04	627	8.14E-04	694	1.59E-04	761	1.85E-05
427	7.23E-05	494	3.14E-04	561	7.48E-04	628	8.01E-04	695	1.55E-04	762	1.78E-05
428	7.87E-05	495	3.23E-04	562	7.56E-04	629	7.92E-04	696	1.50E-04	763	1.73E-05
429	8.66E-05	496	3.33E-04	563	7.66E-04	630	7.79E-04	697	1.45E-04	764	1.74E-05
430	9.61E-05	497	3.42E-04	564	7.73E-04	631	7.71E-04	698	1.41E-04	765	1.62E-05
431	1.04E-04	498	3.51E-04	565	7.81E-04	632	7.59E-04	699	1.36E-04	766	1.55E-05
432	1.14E-04	499	3.60E-04	566	7.89E-04	633	7.47E-04	700	1.32E-04	767	1.52E-05
433	1.24E-04	500	3.70E-04	567	8.01E-04	634	7.38E-04	701	1.28E-04	768	1.49E-05
434	1.36E-04	501	3.82E-04	568	8.10E-04	635	7.25E-04	702	1.23E-04	769	1.42E-05
435	1.46E-04	502	3.91E-04	569	8.18E-04	636	7.13E-04	703	1.20E-04	770	1.43E-05
436	1.62E-04	503	4.01E-04	570	8.29E-04	637	7.02E-04	704	1.15E-04	771	1.35E-05
437	1.80E-04	504	4.09E-04	571	8.37E-04	638	6.87E-04	705	1.12E-04	772	1.32E-05
438	1.96E-04	505	4.20E-04	572	8.45E-04	639	6.77E-04	706	1.07E-04	773	1.24E-05
439	2.18E-04	506	4.30E-04	573	8.55E-04	640	6.65E-04	707	1.04E-04	774	1.22E-05
440	2.42E-04	507	4.39E-04	574	8.64E-04	641	6.49E-04	708	9.99E-05	775	1.20E-05
441	2.65E-04	508	4.48E-04	575	8.69E-04	642	6.37E-04	709	9.64E-05	776	1.16E-05
442	2.97E-04	509	4.52E-04	576	8.80E-04	643	6.26E-04	710	9.26E-05	777	1.11E-05
443	3.31E-04	510	4.59E-04	577	8.86E-04	644	6.13E-04	711	9.00E-05	778	1.08E-05
444	3.67E-04	511	4.67E-04	578	8.93E-04	645	6.02E-04	712	8.68E-05	779	1.08E-05
445	4.06E-04	512	4.76E-04	579	9.02E-04	646	5.90E-04	713	8.33E-05	780	1.08E-05
446	4.55E-04	513	4.81E-04	580	9.11E-04	647	5.78E-04	714	8.07E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	EZP2X2 @30W3500K	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	0.119	31.4	0.956
NON-WORST CASE	120.0	60	0.258	30.8	0.994

Test Result

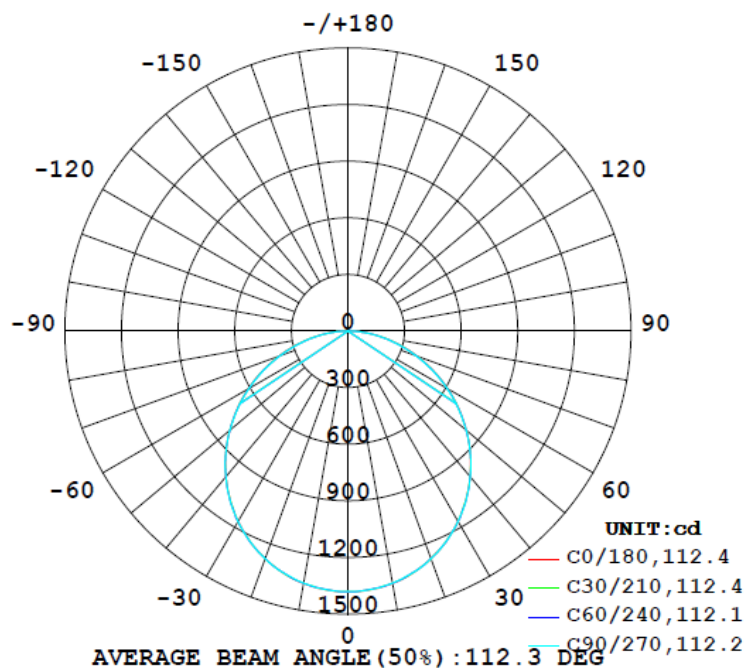
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement
	C0-180	C90-270	C0-180	C90-270		(0°-60°)
3980	164.8	164.1	112.4	112.0	126.8	77.9%

UGR		Spacing Criterion	
Crosswise	Endwise	(0°-180°)	(90°-270°)
21.1	21.0	1.26	1.26

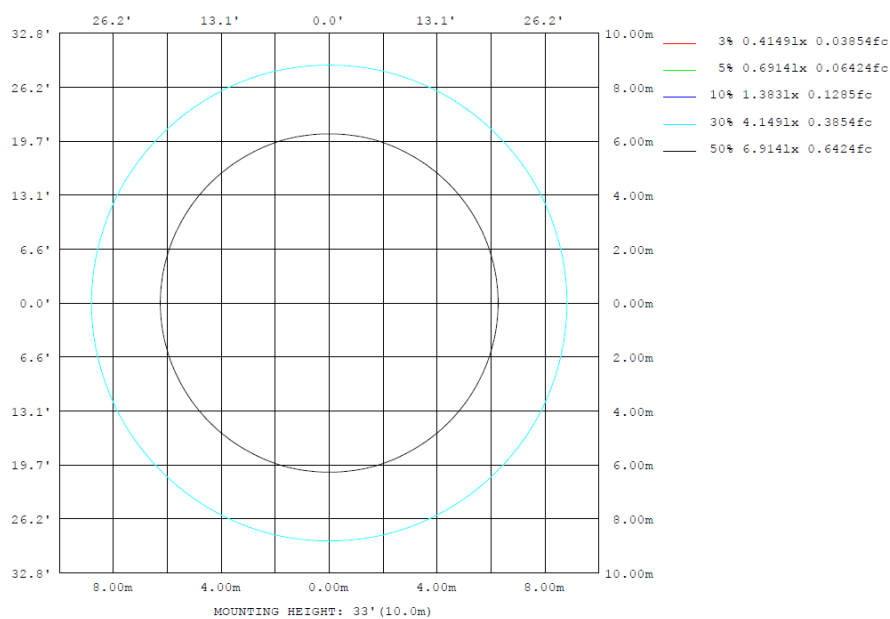
4.2 Goniophotometer Test

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	1357	1359	1356	1359	1357	1359	1356	1359	0- 10	130.7	130.7	3.28,3.28
20	1284	1284	1283	1284	1284	1284	1283	1284	10- 20	374.3	505.0	12.7,12.7
30	1164	1165	1166	1165	1164	1165	1166	1165	20- 30	566.9	1072	26.9,26.9
40	1009	1007	1008	1007	1009	1007	1008	1007	30- 40	682.4	1754	44.1,44.1
50	818.2	818.5	817.0	818.5	818.2	818.5	817.0	818.5	40- 50	706.6	2461	61.8,61.8
60	609.2	605.6	604.1	605.6	609.2	605.6	604.1	605.6	50- 60	638.5	3099	77.9,77.9
70	391.0	386.8	382.4	386.8	391.0	386.8	382.4	386.8	60- 70	491.6	3591	90.2,90.2
80	181.6	177.4	172.6	177.4	181.6	177.4	172.6	177.4	70- 80	295.4	3886	97.7,97.7
90	0	0	0	0	0	0	0	0	80- 90	93.23	3980	100,100
100	0	0	0	0	0	0	0	0	90-100	0	3980	100,100
110	0	0	0	0	0	0	0	0	100-110	0	3980	100,100
120	0	0	0	0	0	0	0	0	110-120	0	3980	100,100
130	0	0	0	0	0	0	0	0	120-130	0	3980	100,100
140	0	0	0	0	0	0	0	0	130-140	0	3980	100,100
150	0	0	0	0	0	0	0	0	140-150	0	3980	100,100
160	0	0	0	0	0	0	0	0	150-160	0	3980	100,100
170	0	0	0	0	0	0	0	0	160-170	0	3980	100,100
180	0	0	0	0	0	0	0	0	170-180	0	3980	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

	Zonal (lm)		Total (lm)	Percent
0-10	130.67	0-10	130.67	3.28%
10-20	374.35	0-20	505.02	12.69%
20-30	566.85	0-30	1071.87	26.93%
30-40	682.40	0-40	1754.27	44.08%
40-50	706.65	0-50	2460.92	61.84%
50-60	638.46	0-60	3099.38	77.88%
60-70	491.56	0-70	3590.94	90.23%
70-80	295.41	0-80	3886.35	97.66%
80-90	93.23	0-90	3979.58	100.00%
90-100	0.00	0-100	3979.58	100.00%
100-110	0.00	0-110	3979.58	100.00%
110-120	0.00	0-120	3979.58	100.00%
120-130	0.00	0-130	3979.58	100.00%
130-140	0.00	0-140	3979.58	100.00%
140-150	0.00	0-150	3979.58	100.00%
150-160	0.00	0-160	3979.58	100.00%
160-170	0.00	0-170	3979.58	100.00%
170-180	0.00	0-180	3979.58	100.00%

4.2 Goniophotometer Test

UGR – Uncorrected Table:

UGR TABLE - UNCORRECTED

Reflectances											
Ceiling Cavity		70	70	50	50	30	70	70	50	50	30
Walls		50	30	50	30	30	50	30	50	30	30
Floor Cavity		20	20	20	20	20	20	20	20	20	20
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	11.7	13.3	12.0	13.6	13.9	11.6	13.3	12.0	13.6	13.9
	3H	13.6	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	16.6	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	17.3	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	15.5	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	16.8	17.6	18.1	16.2	17.0	16.6	17.5	18.0
	12H	16.5	17.3	17.0	17.8	18.3	16.4	17.2	16.8	17.6	18.1
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	17.3	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	18.7	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
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	16.5	18.1	16.8	18.4	18.7	16.4	18.1	16.8	18.4	18.7
	3H	18.4	19.8	18.7	20.2	20.5	18.3	19.8	18.7	20.1	20.5
	4H	19.1	20.5	19.5	20.8	21.2	19.0	20.4	19.4	20.8	21.1
	6H	19.7	21.0	20.1	21.4	21.7	19.6	20.9	20.0	21.2	21.6
	8H	19.9	21.1	20.3	21.5	21.9	19.8	21.0	20.2	21.4	21.8
	12H	20.0	21.2	20.5	21.6	22.1	19.9	21.1	20.3	21.5	21.9
4H	2H	17.1	18.5	17.5	18.9	19.2	17.1	18.5	17.5	18.8	19.2
	3H	19.2	20.4	19.6	20.8	21.2	19.2	20.3	19.6	20.7	21.1
	4H	20.1	21.2	20.5	21.6	22.0	20.0	21.1	20.4	21.5	21.9
	6H	20.8	21.8	21.3	22.2	22.7	20.7	21.7	21.2	22.1	22.6
	8H	21.1	22.0	21.6	22.4	22.9	21.0	21.8	21.4	22.3	22.8
	12H	21.3	22.1	21.8	22.6	23.1	21.2	22.0	21.6	22.4	22.9
8H	4H	20.4	21.3	20.9	21.8	22.2	20.4	21.2	20.8	21.7	22.2
	6H	21.3	22.1	21.8	22.5	23.0	21.2	21.9	21.7	22.4	22.9
	8H	21.7	22.3	22.2	22.8	23.3	21.5	22.2	22.0	22.7	23.2
	12H	22.0	22.6	22.5	23.1	23.6	21.8	22.4	22.3	22.9	23.5
12H	4H	20.5	21.3	21.0	21.8	22.2	20.4	21.2	20.9	21.7	22.2
	6H	21.4	22.1	21.9	22.5	23.1	21.3	22.0	21.8	22.4	23.0
	8H	21.8	22.4	22.3	22.9	23.5	21.7	22.3	22.2	22.8	23.3

Maximum UGR = 23.6

4.2 Goniophotometer Test

Luminous Distribution Intensity Data

UNIT: cd																				
C (DEG)		0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
y (DEG)																				
0	1383	1382	1380	1380	1382	1382	1379	1382	1382	1380	1380	1380	1382	1383	1382	1380	1380	1382	1382	1379
5	1376	1376	1376	1374	1373	1377	1375	1377	1377	1373	1374	1376	1376	1376	1376	1376	1374	1373	1377	1375
10	1357	1354	1357	1359	1357	1358	1356	1358	1357	1359	1357	1354	1357	1354	1357	1359	1357	1358	1356	1356
15	1328	1327	1327	1326	1325	1327	1326	1327	1325	1326	1327	1327	1328	1327	1327	1326	1325	1327	1326	1326
20	1284	1282	1284	1284	1282	1286	1283	1286	1282	1284	1284	1282	1284	1282	1284	1284	1282	1286	1282	1283
25	1230	1229	1229	1229	1231	1233	1230	1233	1231	1229	1229	1229	1230	1229	1229	1229	1231	1233	1230	1230
30	1164	1165	1165	1165	1165	1168	1166	1168	1165	1165	1165	1165	1164	1165	1165	1165	1165	1168	1166	1166
35	1090	1089	1091	1091	1092	1094	1092	1094	1092	1091	1091	1089	1090	1089	1091	1091	1092	1094	1092	1092
40	1009	1008	1007	1007	1008	1010	1008	1010	1008	1007	1007	1008	1009	1008	1007	1007	1008	1010	1008	1008
45	916	916	916	915	916	919	916	919	916	915	916	916	916	916	916	915	916	919	916	916
50	818	818	817	819	816	820	817	820	816	819	817	818	818	818	818	817	819	816	820	817
55	717	715	715	714	713	715	713	715	713	714	715	715	717	715	717	715	714	713	715	713
60	609	609	607	606	605	605	604	605	605	606	607	609	609	609	607	606	605	605	604	604
65	501	500	498	496	496	495	494	495	496	496	498	500	501	500	498	496	496	495	494	494
70	391	390	388	387	384	384	382	384	384	387	388	390	391	390	388	387	384	384	382	382
75	284	283	282	279	277	275	274	275	277	279	282	283	284	283	282	279	277	275	274	274
80	182	181	180	177	175	174	173	174	175	177	180	181	182	181	180	177	175	174	173	173
85	86.8	86.3	85.5	84.0	82.5	81.5	80.8	81.5	82.5	84.0	85.5	86.3	86.8	86.3	85.5	84.0	82.5	81.5	80.8	80.8
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	0.00

Table--2

UNIT: cd

C (DEG)	285	300	315	330	345															
y (DEG)	0	1382	1382	1380	1380	1382														
5	1377	1373	1374	1376	1376															
10	1358	1357	1359	1357	1354															
15	1327	1325	1326	1327	1327															
20	1286	1282	1284	1284	1282															
25	1233	1231	1229	1229	1229															
30	1168	1165	1165	1165	1165															
35	1094	1092	1091	1091	1089															
40	1010	1008	1007	1007	1008															
45	919	916	915	916	916															
50	820	816	819	817	818															
55	715	713	714	715	715															
60	605	605	606	607	609															
65	495	496	496	498	500															
70	384	384	387	388	390															
75	275	277	279	282	283															
80	174	175	177	180	181															
85	81.5	82.5	84.0	85.5	86.3															
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 @30W3500K	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	0.258	30.8	0.994	11.06
277.0	60	0.119	31.4	0.956	12.10

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*****