

Photometric Test Report

Relevant Standards

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

Prepared For

RAB Lighting Inc.

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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		4136
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	130.9
		110	125	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		31.6
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	11.03
			277V	12.33
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.994
			277V	0.957
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	5029±283	4766
		4 steps	5029±220	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥80		82.8
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥0		6
Minimum Rf (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥70		83
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%		-13%
Zonal Lumen Requirement (0°-60°) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	≥75%		77.9%
Discomfort Glare (UGR) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	21.2
		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		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		0.261
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		31.6
(Goniophotometer – Section 4.2)		Non-Worst Case		31.1

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-17	EZP2X2 @30W5000K	-	250117002-S1
2	Goniophotometer Test	2025-01-17	EZP2X2 @30W5000K	-	250117002-S1
3	THD and PF Test	2025-01-17	EZP2X2 @30W5000K	-	250117002-S1

Remark (If any):

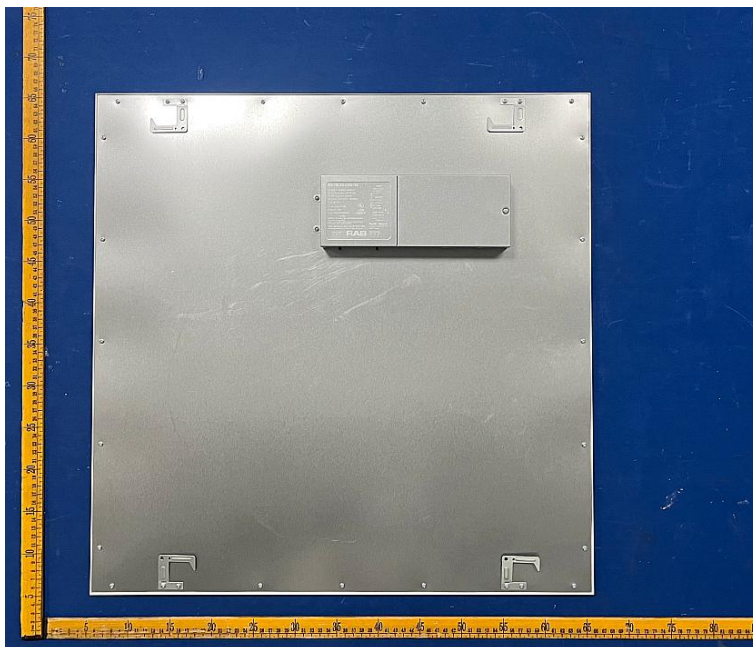
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3. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. Government.

3.0 Product Description

Luminaire Description: Model No. EZP2X2 @30W5000K, 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 @30W5000K	Sample ID	250117002-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

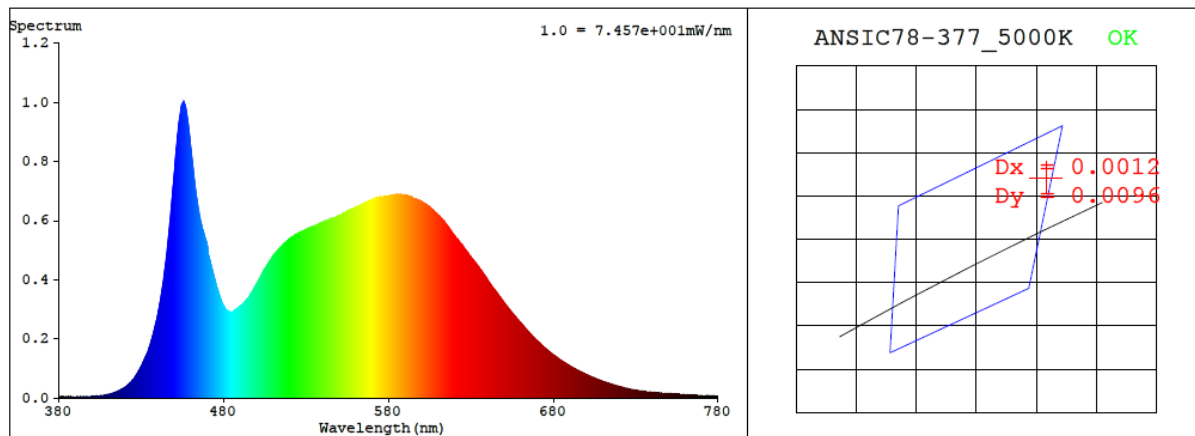
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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	0.261	31.1	0.994
277.0	60	0.119	31.6	0.957

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
4766	82.8	6	0.0042	83	93	-13%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3533$ $y = 0.3666$ / $u' = 0.2111$ $v' = 0.4930$ ($duv=4.23e-03$)

CCT= 4766K Prcp WL: Ld=572.0nm Purity=16.0%

Peak WL: Lp=456nm FWHM: =24.7nm Ratio:R=16.0% G=79.3% B=4.7%

Render Index: Ra = 82.8 AvgR = 75.6 TM30:Rf=83 Rg=93

EEL: 0.11375 A+

R1 =81	R2 =90	R3 =95	R4 =79	R5 =80	R6 =85	R7 =86
R8 =65	R9 =6	R10=76	R11=77	R12=56	R13=84	R14=98
						R15=74

4.1 Integrating Sphere Test

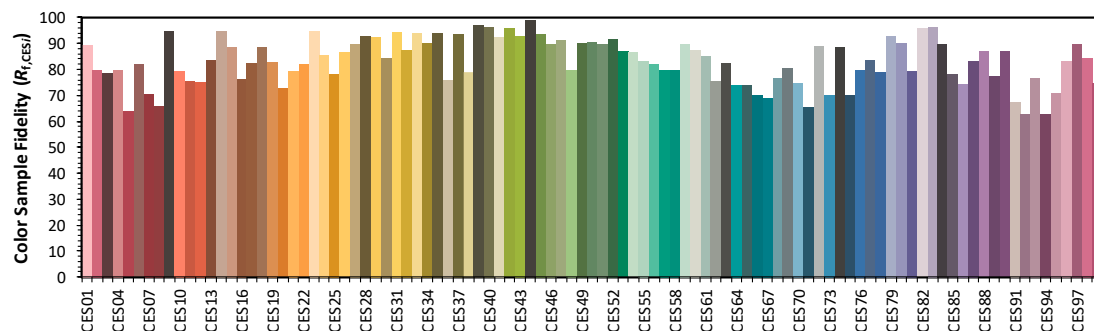
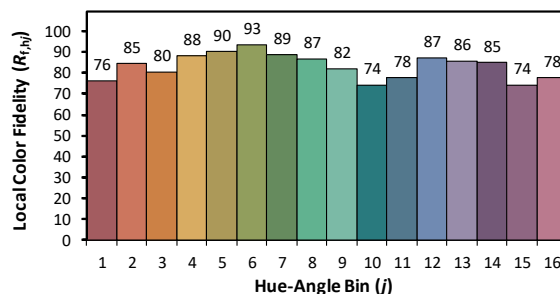
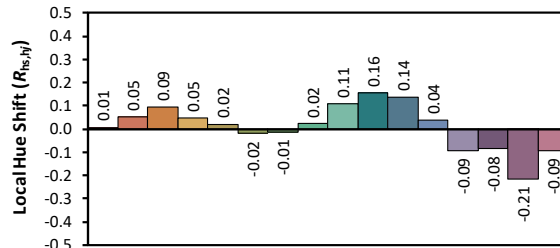
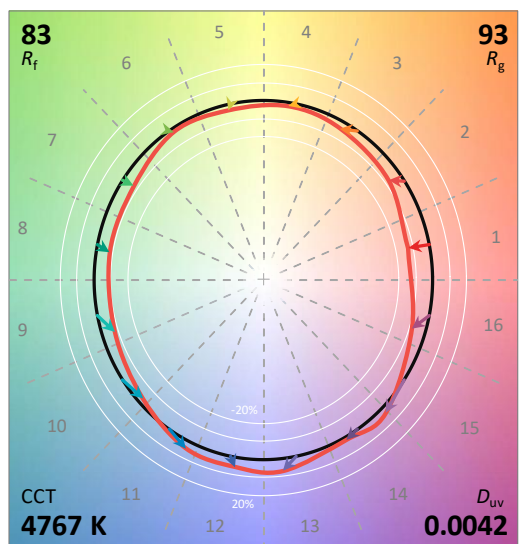
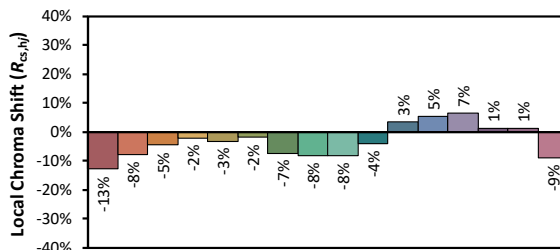
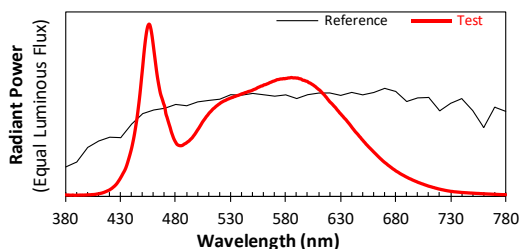
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/21

Model: EZP2X2 @30W5000K



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

x 0.3532
 y 0.3665
 u' 0.2112
 v' 0.4929

CIE 13.3-1995
(CRI)
 R_a 83
 R_9 6

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	6.20E-06	447	5.66E-04	514	5.06E-04	581	6.84E-04	648	3.39E-04	715	4.74E-05
381	4.20E-06	448	6.26E-04	515	5.11E-04	582	6.86E-04	649	3.31E-04	716	4.50E-05
382	4.90E-06	449	6.91E-04	516	5.17E-04	583	6.86E-04	650	3.24E-04	717	4.37E-05
383	4.20E-06	450	7.55E-04	517	5.23E-04	584	6.87E-04	651	3.16E-04	718	4.18E-05
384	3.80E-06	451	8.23E-04	518	5.27E-04	585	6.89E-04	652	3.09E-04	719	4.01E-05
385	3.40E-06	452	8.83E-04	519	5.33E-04	586	6.88E-04	653	3.01E-04	720	3.87E-05
386	4.50E-06	453	9.34E-04	520	5.37E-04	587	6.86E-04	654	2.95E-04	721	3.72E-05
387	4.10E-06	454	9.72E-04	521	5.42E-04	588	6.87E-04	655	2.88E-04	722	3.58E-05
388	2.90E-06	455	9.94E-04	522	5.46E-04	589	6.86E-04	656	2.81E-04	723	3.45E-05
389	3.20E-06	456	9.99E-04	523	5.49E-04	590	6.85E-04	657	2.75E-04	724	3.31E-05
390	3.40E-06	457	9.82E-04	524	5.53E-04	591	6.86E-04	658	2.68E-04	725	3.17E-05
391	4.20E-06	458	9.50E-04	525	5.55E-04	592	6.82E-04	659	2.62E-04	726	3.05E-05
392	3.70E-06	459	9.05E-04	526	5.58E-04	593	6.81E-04	660	2.55E-04	727	2.93E-05
393	4.80E-06	460	8.55E-04	527	5.62E-04	594	6.80E-04	661	2.49E-04	728	2.82E-05
394	4.00E-06	461	8.04E-04	528	5.64E-04	595	6.75E-04	662	2.42E-04	729	2.72E-05
395	4.80E-06	462	7.54E-04	529	5.67E-04	596	6.72E-04	663	2.36E-04	730	2.59E-05
396	4.20E-06	463	7.06E-04	530	5.69E-04	597	6.72E-04	664	2.30E-04	731	2.56E-05
397	4.60E-06	464	6.66E-04	531	5.72E-04	598	6.68E-04	665	2.23E-04	732	2.47E-05
398	4.90E-06	465	6.31E-04	532	5.74E-04	599	6.67E-04	666	2.17E-04	733	2.37E-05
399	5.30E-06	466	5.98E-04	533	5.78E-04	600	6.64E-04	667	2.11E-04	734	2.32E-05
400	5.70E-06	467	5.77E-04	534	5.79E-04	601	6.59E-04	668	2.05E-04	735	2.26E-05
401	6.00E-06	468	5.58E-04	535	5.82E-04	602	6.57E-04	669	1.99E-04	736	2.19E-05
402	6.00E-06	469	5.36E-04	536	5.84E-04	603	6.53E-04	670	1.94E-04	737	2.14E-05
403	6.50E-06	470	5.18E-04	537	5.85E-04	604	6.49E-04	671	1.89E-04	738	2.07E-05
404	7.20E-06	471	4.79E-04	538	5.88E-04	605	6.45E-04	672	1.84E-04	739	2.02E-05
405	7.30E-06	472	4.59E-04	539	5.91E-04	606	6.40E-04	673	1.79E-04	740	1.94E-05
406	7.90E-06	473	4.37E-04	540	5.94E-04	607	6.36E-04	674	1.74E-04	741	1.91E-05
407	8.60E-06	474	4.16E-04	541	5.95E-04	608	6.29E-04	675	1.69E-04	742	1.87E-05
408	1.00E-05	475	3.96E-04	542	5.98E-04	609	6.24E-04	676	1.64E-04	743	1.81E-05
409	1.10E-05	476	3.72E-04	543	6.00E-04	610	6.19E-04	677	1.59E-04	744	1.78E-05
410	1.21E-05	477	3.54E-04	544	6.02E-04	611	6.14E-04	678	1.55E-04	745	1.74E-05
411	1.36E-05	478	3.36E-04	545	6.04E-04	612	6.08E-04	679	1.51E-04	746	1.68E-05
412	1.48E-05	479	3.23E-04	546	6.07E-04	613	6.01E-04	680	1.45E-04	747	1.65E-05
413	1.64E-05	480	3.11E-04	547	6.09E-04	614	5.94E-04	681	1.42E-04	748	1.60E-05
414	1.86E-05	481	3.01E-04	548	6.10E-04	615	5.88E-04	682	1.38E-04	749	1.59E-05
415	2.06E-05	482	2.96E-04	549	6.13E-04	616	5.80E-04	683	1.34E-04	750	1.54E-05
416	2.34E-05	483	2.93E-04	550	6.16E-04	617	5.73E-04	684	1.29E-04	751	1.50E-05
417	2.60E-05	484	2.92E-04	551	6.19E-04	618	5.64E-04	685	1.26E-04	752	1.46E-05
418	2.91E-05	485	2.92E-04	552	6.21E-04	619	5.56E-04	686	1.22E-04	753	1.42E-05
419	3.18E-05	486	2.94E-04	553	6.24E-04	620	5.48E-04	687	1.19E-04	754	1.39E-05
420	3.53E-05	487	2.97E-04	554	6.28E-04	621	5.42E-04	688	1.15E-04	755	1.37E-05
421	3.95E-05	488	3.02E-04	555	6.31E-04	622	5.36E-04	689	1.12E-04	756	1.34E-05
422	4.38E-05	489	3.05E-04	556	6.34E-04	623	5.29E-04	690	1.08E-04	757	1.27E-05
423	4.95E-05	490	3.10E-04	557	6.37E-04	624	5.21E-04	691	1.05E-04	758	1.26E-05
424	5.45E-05	491	3.15E-04	558	6.39E-04	625	5.15E-04	692	1.02E-04	759	1.22E-05
425	6.08E-05	492	3.19E-04	559	6.41E-04	626	5.07E-04	693	9.90E-05	760	1.16E-05
426	6.77E-05	493	3.26E-04	560	6.45E-04	627	4.99E-04	694	9.64E-05	761	1.14E-05
427	7.60E-05	494	3.32E-04	561	6.47E-04	628	4.92E-04	695	9.30E-05	762	1.12E-05
428	8.58E-05	495	3.38E-04	562	6.48E-04	629	4.83E-04	696	9.02E-05	763	1.09E-05
429	9.54E-05	496	3.47E-04	563	6.51E-04	630	4.77E-04	697	8.75E-05	764	1.05E-05
430	1.06E-04	497	3.55E-04	564	6.54E-04	631	4.69E-04	698	8.47E-05	765	1.03E-05
431	1.17E-04	498	3.65E-04	565	6.57E-04	632	4.62E-04	699	8.23E-05	766	1.01E-05
432	1.30E-04	499	3.75E-04	566	6.60E-04	633	4.54E-04	700	7.91E-05	767	9.70E-06
433	1.41E-04	500	3.85E-04	567	6.62E-04	634	4.48E-04	701	7.67E-05	768	9.30E-06
434	1.53E-04	501	3.94E-04	568	6.66E-04	635	4.41E-04	702	7.45E-05	769	9.10E-06
435	1.69E-04	502	4.05E-04	569	6.68E-04	636	4.33E-04	703	7.19E-05	770	8.80E-06
436	1.88E-04	503	4.15E-04	570	6.70E-04	637	4.25E-04	704	6.97E-05	771	8.50E-06
437	2.10E-04	504	4.26E-04	571	6.72E-04	638	4.17E-04	705	6.76E-05	772	8.20E-06
438	2.32E-04	505	4.36E-04	572	6.76E-04	639	4.09E-04	706	6.50E-05	773	8.00E-06
439	2.55E-04	506	4.44E-04	573	6.77E-04	640	4.00E-04	707	6.28E-05	774	7.60E-06
440	2.80E-04	507	4.53E-04	574	6.78E-04	641	3.92E-04	708	6.06E-05	775	7.40E-06
441	3.10E-04	508	4.62E-04	575	6.80E-04	642	3.84E-04	709	5.83E-05	776	7.10E-06
442	3.42E-04	509	4.69E-04	576	6.80E-04	643	3.75E-04	710	5.61E-05	777	6.90E-06
443	3.79E-04	510	4.78E-04	577	6.80E-04	644	3.68E-04	711	5.44E-05	778	6.80E-06
444	4.19E-04	511	4.86E-04	578	6.83E-04	645	3.61E-04	712	5.26E-05	779	6.90E-06
445	4.62E-04	512	4.92E-04	579	6.81E-04	646	3.54E-04	713	5.08E-05	780	6.90E-06
446	5.13E-04	513	4.99E-04	580	6.83E-04	647	3.46E-04	714	4.87E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	EZP2X2 @30W5000K	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	31.6	0.957
NON-WORST CASE	120.0	60	0.261	31.1	0.994

Test Result

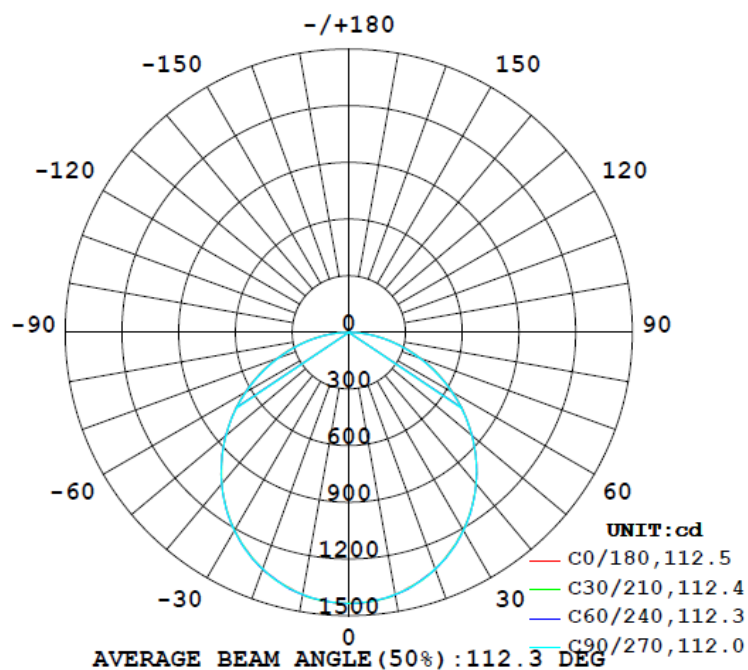
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement
	C0-180	C90-270	C0-180	C90-270		(0°-60°)
4136	164.8	164.1	112.4	111.9	130.9	77.9%

UGR		Spacing Criterion	
Crosswise	Endwise	(0°-180°)	(90°-270°)
21.2	21.1	1.26	1.26

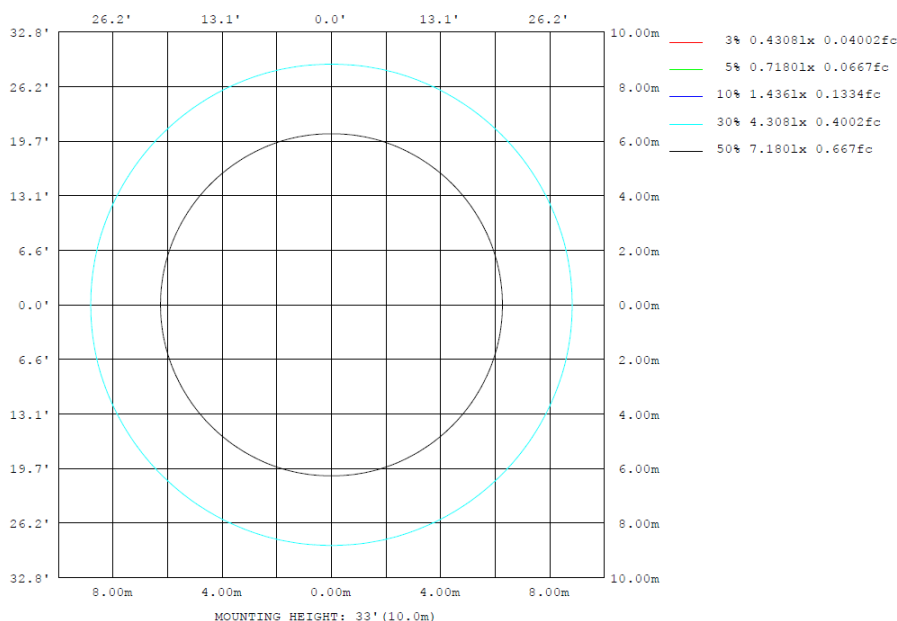
4.2 Goniophotometer Test

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	θlum, lamp
10	1408	1412	1407	1412	1408	1412	1407	1412	0- 10	135.8	135.8	3.28,3.28
20	1333	1334	1332	1334	1333	1334	1332	1334	10- 20	389.0	524.8	12.7,12.7
30	1208	1210	1213	1210	1208	1210	1213	1210	20- 30	588.9	1114	26.9,26.9
40	1046	1047	1047	1047	1046	1047	1047	1047	30- 40	709.1	1823	44.1,44.1
50	850.0	848.4	848.8	848.4	850.0	848.4	848.8	848.4	40- 50	734.3	2557	61.8,61.8
60	633.2	630.4	627.3	630.4	633.2	630.4	627.3	630.4	50- 60	663.6	3221	77.9,77.9
70	405.9	401.8	397.3	401.8	405.9	401.8	397.3	401.8	60- 70	510.9	3732	90.2,90.2
80	188.5	184.1	179.3	184.1	188.5	184.1	179.3	184.1	70- 80	307.1	4039	97.7,97.7
90	0	0	0	0	0	0	0	0	80- 90	96.92	4136	100,100
100	0	0	0	0	0	0	0	0	90-100	0	4136	100,100
110	0	0	0	0	0	0	0	0	100-110	0	4136	100,100
120	0	0	0	0	0	0	0	0	110-120	0	4136	100,100
130	0	0	0	0	0	0	0	0	120-130	0	4136	100,100
140	0	0	0	0	0	0	0	0	130-140	0	4136	100,100
150	0	0	0	0	0	0	0	0	140-150	0	4136	100,100
160	0	0	0	0	0	0	0	0	150-160	0	4136	100,100
170	0	0	0	0	0	0	0	0	160-170	0	4136	100,100
180	0	0	0	0	0	0	0	0	170-180	0	4136	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

	Zonal (lm)		Total (lm)	Percent
0-10	135.84	0-10	135.84	3.28%
10-20	388.97	0-20	524.81	12.69%
20-30	588.93	0-30	1113.74	26.93%
30-40	709.10	0-40	1822.84	44.08%
40-50	734.29	0-50	2557.13	61.83%
50-60	663.58	0-60	3220.71	77.88%
60-70	510.95	0-70	3731.66	90.23%
70-80	307.14	0-80	4038.80	97.66%
80-90	96.91	0-90	4135.71	100.00%
90-100	0.00	0-100	4135.71	100.00%
100-110	0.00	0-110	4135.71	100.00%
110-120	0.00	0-120	4135.71	100.00%
120-130	0.00	0-130	4135.71	100.00%
130-140	0.00	0-140	4135.71	100.00%
140-150	0.00	0-150	4135.71	100.00%
150-160	0.00	0-160	4135.71	100.00%
160-170	0.00	0-170	4135.71	100.00%
170-180	0.00	0-180	4135.71	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		UGR Viewed Crosswise					UGR Viewed Endwise				
Y=2H	11.7	13.3	12.0	13.6	13.9	11.6	13.3	12.0	13.6	13.9	
3H	13.6	15.1	13.9	15.4	15.7	13.5	15.0	13.9	15.3	15.7	
4H	14.3	15.7	14.7	16.1	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	16.5	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											
X=2H		UGR Viewed Crosswise					UGR Viewed Endwise				
Y=2H	16.6	18.2	16.9	18.5	18.8	16.5	18.2	16.9	18.5	18.8	
3H	18.5	20.0	18.8	20.3	20.6	18.4	19.9	18.8	20.2	20.6	
4H	19.2	20.6	19.6	21.0	21.3	19.1	20.5	19.5	20.9	21.2	
6H	19.8	21.1	20.2	21.5	21.8	19.7	21.0	20.1	21.3	21.7	
8H	20.0	21.2	20.4	21.6	22.0	19.9	21.1	20.3	21.5	21.9	
12H	20.1	21.4	20.6	21.7	22.2	20.0	21.2	20.4	21.6	22.0	
4H	2H	17.2	18.6	17.6	19.0	19.3	17.2	18.6	17.6	18.9	19.3
	3H	19.3	20.5	19.7	20.9	21.3	19.3	20.4	19.7	20.8	21.2
	4H	20.2	21.3	20.6	21.7	22.1	20.1	21.2	20.5	21.6	22.0
	6H	20.9	21.9	21.4	22.3	22.8	20.8	21.8	21.3	22.2	22.7
	8H	21.2	22.1	21.7	22.5	23.0	21.1	21.9	21.5	22.4	22.9
	12H	21.4	22.2	21.9	22.7	23.2	21.3	22.1	21.7	22.5	23.0
8H	4H	20.5	21.4	21.0	21.9	22.3	20.5	21.3	20.9	21.8	22.3
	6H	21.4	22.2	21.9	22.6	23.1	21.3	22.0	21.8	22.5	23.0
	8H	21.8	22.4	22.3	22.9	23.4	21.6	22.3	22.1	22.8	23.3
	12H	22.1	22.7	22.6	23.2	23.7	21.9	22.5	22.4	23.0	23.6
12H	4H	20.6	21.4	21.1	21.9	22.3	20.5	21.3	21.0	21.8	22.3
	6H	21.5	22.2	22.0	22.6	23.2	21.4	22.1	21.9	22.5	23.1
	8H	21.9	22.5	22.4	23.0	23.6	21.8	22.4	22.3	22.9	23.4

Maximum UGR = 23.7

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	1436	1436	1434	1434	1435	1437	1436	1437	1435	1434	1434	1436	1436	1436	1434	1434	1435	1437	1436
5	1427	1428	1429	1430	1428	1430	1427	1430	1428	1430	1429	1428	1427	1428	1429	1430	1428	1430	1427
10	1408	1413	1410	1412	1410	1412	1407	1412	1410	1412	1410	1413	1408	1413	1410	1412	1410	1412	1407
15	1376	1381	1376	1378	1378	1378	1377	1378	1378	1378	1376	1381	1376	1381	1376	1378	1378	1378	1377
20	1333	1334	1336	1334	1333	1335	1332	1335	1333	1334	1336	1334	1333	1334	1336	1334	1333	1335	1332
25	1274	1278	1277	1278	1278	1280	1278	1280	1278	1278	1277	1278	1274	1278	1277	1278	1278	1280	1278
30	1208	1211	1209	1210	1211	1214	1213	1214	1211	1210	1209	1211	1208	1211	1209	1210	1211	1214	1213
35	1132	1132	1133	1132	1134	1137	1134	1137	1134	1132	1133	1132	1132	1132	1133	1132	1134	1137	1134
40	1046	1047	1047	1047	1047	1049	1047	1049	1047	1047	1047	1046	1047	1047	1047	1047	1047	1049	1047
45	953	952	951	953	952	953	952	953	952	953	951	952	953	952	951	953	952	953	952
50	850	852	850	848	852	851	849	851	852	848	850	852	850	852	850	848	852	851	849
55	744	744	743	741	742	742	740	742	741	743	744	744	744	743	741	742	742	740	740
60	633	634	632	630	630	629	627	629	630	630	632	634	633	634	632	630	630	629	627
65	519	520	518	516	514	514	512	514	514	516	518	520	519	520	518	516	514	514	512
70	406	406	404	402	400	398	397	398	400	402	404	406	406	406	404	402	400	398	397
75	295	295	293	290	288	287	285	287	288	290	293	295	295	295	293	290	288	287	285
80	189	188	187	184	182	181	179	181	182	184	187	188	189	188	187	184	182	181	179
85	89.8	89.9	88.8	87.2	85.8	84.5	84.1	84.5	85.8	87.2	88.8	89.9	89.8	89.9	88.8	87.2	85.8	84.5	84.1
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	1437	1435	1434	1434	1436														
5	1430	1428	1430	1429	1428														
10	1412	1410	1412	1410	1413														
15	1378	1378	1378	1376	1381														
20	1335	1333	1334	1336	1334														
25	1280	1278	1278	1277	1278														
30	1214	1211	1210	1209	1211														
35	1137	1134	1132	1133	1132														
40	1049	1047	1047	1047	1047														
45	953	952	953	951	952														
50	851	852	848	850	852														
55	742	742	741	743	744														
60	629	630	630	632	634														
65	514	514	516	518	520														
70	398	400	402	404	406														
75	287	288	290	293	295														
80	181	182	184	187	188														
85	84.5	85.8	87.2	88.8	89.9														
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 @30W5000K	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	0.261	31.1	0.994	11.03
277.0	60	0.119	31.6	0.957	12.33

5.0 Equipment List:

Equipment ID	Equipment Name	Last Cal.	Due Cal.
NTC-F01-001	Goniophotometer System	2024-11-07	2025-11-06
NTC-F01-006	2.0 meter Integrating Sphere	2024-11-07	2025-11-06
NTC-F01-012	Standard Lamp	2024-10-28	2025-10-27
NTC-F01-013	Standard Lamp	2024-10-28	2025-10-27
NTC-F01-031	Digital Power Meter	2024-08-06	2025-08-05
NTC-F01-019	Temperature & Humidity Meter	2024-10-29	2025-10-28

*****End of Report*****