

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

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		3013
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	114.6
		110	125	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		26.3
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	10.92
			277V	9.64
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.994
			277V	0.924
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	3465±245	3355
		4 steps	3465±124	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥80		83.5
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥0		9
Minimum Rf (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥70		85
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	20.0
		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		0.103
(Goniophotometer – Section 4.2)		Non-Worst Case		0.213
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		26.3
(Goniophotometer – Section 4.2)		Non-Worst Case		25.4

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-20	EZP1X4 @25W3500K	-	250117001-S1
2	Goniophotometer Test	2025-01-20	EZP1X4 @25W3500K	-	250117001-S1
3	THD and PF Test	2025-01-20	EZP1X4 @25W3500K	-	250117001-S1

Remark (If any):

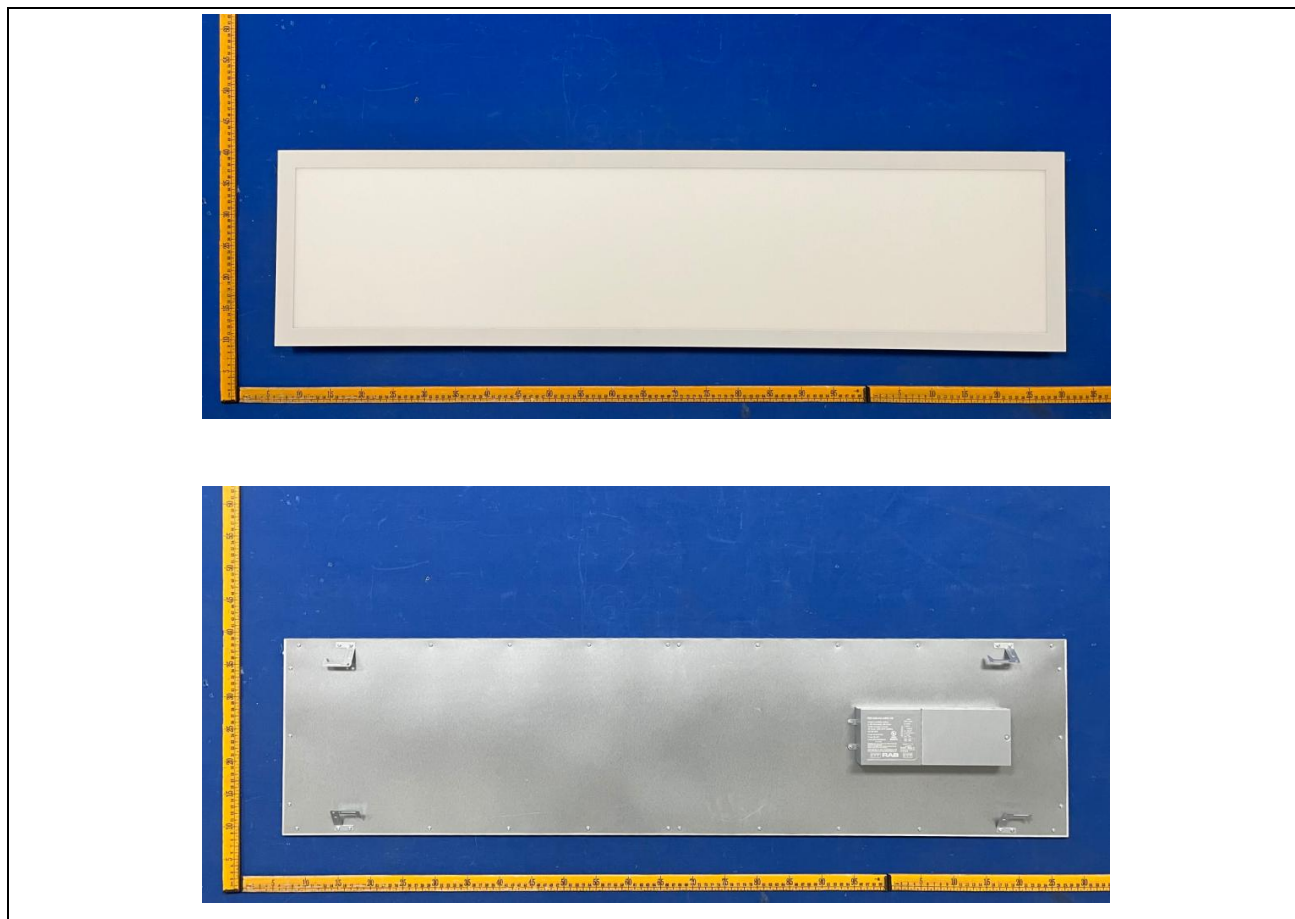
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3.0 Product Description

Luminaire Description: Model No. EZP1X4 @25W3500K, 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 @25W3500K	Sample ID	250117001-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

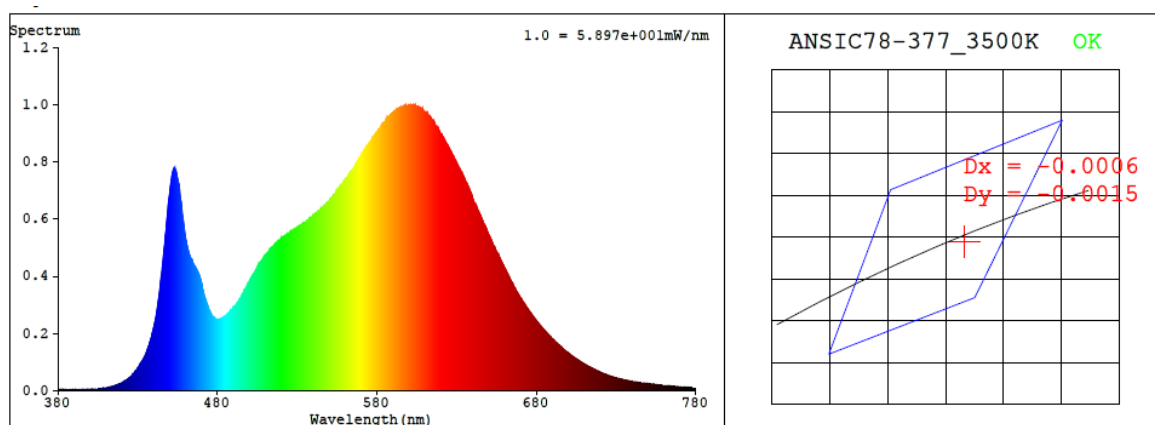
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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	0.213	25.4	0.994
277.0	60	0.103	26.3	0.924

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
3355	83.5	9	-0.0005	85	95	-12%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4131$ $y = 0.3932$ / $u' = 0.2397$ $v' = 0.5135$ ($duv = -5.33e-04$)

CCT= 3355K Prcp WL: Ld=581.6nm Purity=42.0%

Peak WL: Lp=601nm FWHM: =140.5nm Ratio: R=21.1% G=75.7% B=3.2%

Render Index: Ra = 83.5 AvgR = 77.8 TM30:Rf=84 Rg=95

EEI: 0.11631 A+

R1 =82 R2 =92 R3 =96 R4 =81 R5 =83 R6 =90 R7 =83

R8 =61 R9 =9 R10=81 R11=81 R12=69 R13=85 R14=98 R15=75

4.1 Integrating Sphere Test

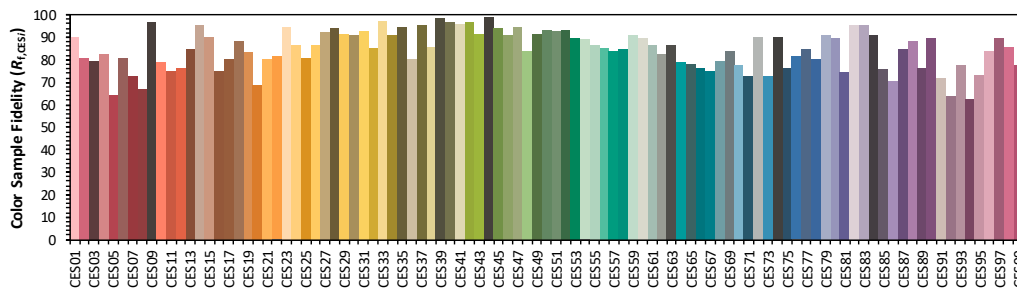
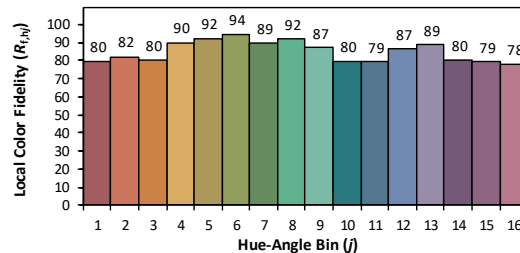
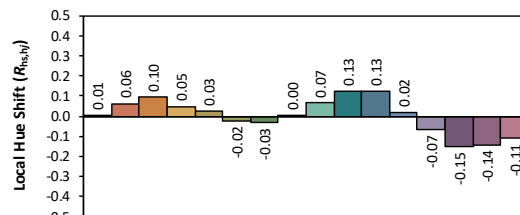
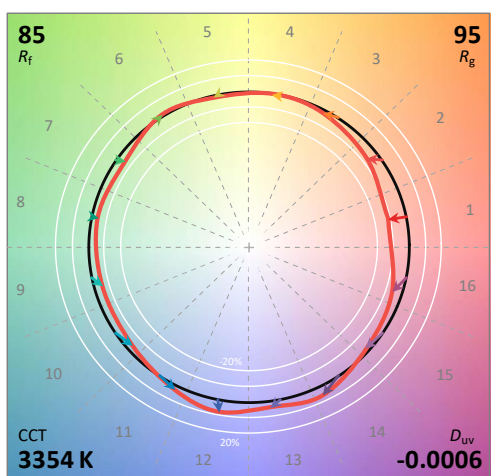
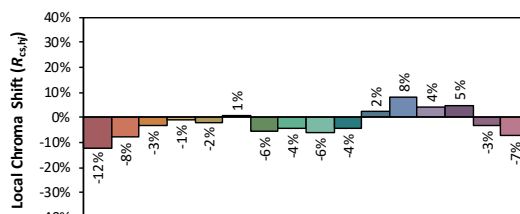
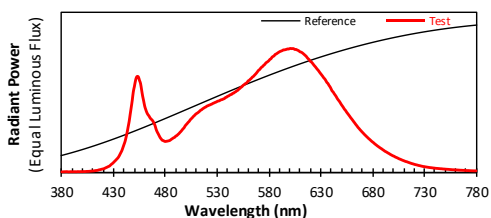
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/21

Model: EZP1X4 @25W3500K



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

x 0.4131
 y 0.3931
 u' 0.2398
 v' 0.5134

CIE 13.3-1995
(CRI)
 R_a 84
 R_g 9

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	2.30E-06	447	5.24E-04	514	5.00E-04	581	9.12E-04	648	5.73E-04	715	7.83E-05
381	2.40E-06	448	5.82E-04	515	5.05E-04	582	9.17E-04	649	5.60E-04	716	7.52E-05
382	3.00E-06	449	6.50E-04	516	5.12E-04	583	9.30E-04	650	5.46E-04	717	7.22E-05
383	3.10E-06	450	6.91E-04	517	5.17E-04	584	9.36E-04	651	5.34E-04	718	6.94E-05
384	3.60E-06	451	7.35E-04	518	5.23E-04	585	9.41E-04	652	5.22E-04	719	6.72E-05
385	3.80E-06	452	7.66E-04	519	5.27E-04	586	9.51E-04	653	5.08E-04	720	6.44E-05
386	2.50E-06	453	7.75E-04	520	5.33E-04	587	9.55E-04	654	4.99E-04	721	6.19E-05
387	2.20E-06	454	7.68E-04	521	5.37E-04	588	9.61E-04	655	4.86E-04	722	5.98E-05
388	3.20E-06	455	7.41E-04	522	5.41E-04	589	9.67E-04	656	4.75E-04	723	5.79E-05
389	3.50E-06	456	7.17E-04	523	5.44E-04	590	9.72E-04	657	4.64E-04	724	5.55E-05
390	2.90E-06	457	6.66E-04	524	5.48E-04	591	9.77E-04	658	4.52E-04	725	5.33E-05
391	3.10E-06	458	6.16E-04	525	5.51E-04	592	9.80E-04	659	4.40E-04	726	5.17E-05
392	3.30E-06	459	5.76E-04	526	5.56E-04	593	9.83E-04	660	4.30E-04	727	4.94E-05
393	3.40E-06	460	5.34E-04	527	5.60E-04	594	9.89E-04	661	4.19E-04	728	4.75E-05
394	2.70E-06	461	5.07E-04	528	5.64E-04	595	9.89E-04	662	4.07E-04	729	4.55E-05
395	4.00E-06	462	4.83E-04	529	5.67E-04	596	9.91E-04	663	3.96E-04	730	4.46E-05
396	3.90E-06	463	4.67E-04	530	5.71E-04	597	9.93E-04	664	3.84E-04	731	4.28E-05
397	3.50E-06	464	4.56E-04	531	5.75E-04	598	9.96E-04	665	3.74E-04	732	4.15E-05
398	4.10E-06	465	4.41E-04	532	5.77E-04	599	9.95E-04	666	3.62E-04	733	4.02E-05
399	4.30E-06	466	4.30E-04	533	5.82E-04	600	9.99E-04	667	3.54E-04	734	3.88E-05
400	3.60E-06	467	4.23E-04	534	5.86E-04	601	1.00E-03	668	3.43E-04	735	3.74E-05
401	5.00E-06	468	4.12E-04	535	5.87E-04	602	9.99E-04	669	3.34E-04	736	3.63E-05
402	4.40E-06	469	3.95E-04	536	5.92E-04	603	9.99E-04	670	3.25E-04	737	3.55E-05
403	5.00E-06	470	3.77E-04	537	5.95E-04	604	9.98E-04	671	3.16E-04	738	3.43E-05
404	5.70E-06	471	3.48E-04	538	6.03E-04	605	9.92E-04	672	3.07E-04	739	3.32E-05
405	5.90E-06	472	3.27E-04	539	6.06E-04	606	9.93E-04	673	2.99E-04	740	3.24E-05
406	6.20E-06	473	3.11E-04	540	6.13E-04	607	9.89E-04	674	2.90E-04	741	3.10E-05
407	7.10E-06	474	2.94E-04	541	6.16E-04	608	9.85E-04	675	2.83E-04	742	3.03E-05
408	8.00E-06	475	2.78E-04	542	6.22E-04	609	9.80E-04	676	2.74E-04	743	2.97E-05
409	8.60E-06	476	2.68E-04	543	6.27E-04	610	9.73E-04	677	2.67E-04	744	2.88E-05
410	9.40E-06	477	2.58E-04	544	6.29E-04	611	9.71E-04	678	2.59E-04	745	2.81E-05
411	1.01E-05	478	2.55E-04	545	6.38E-04	612	9.66E-04	679	2.51E-04	746	2.72E-05
412	1.18E-05	479	2.50E-04	546	6.39E-04	613	9.59E-04	680	2.45E-04	747	2.70E-05
413	1.29E-05	480	2.48E-04	547	6.47E-04	614	9.52E-04	681	2.38E-04	748	2.55E-05
414	1.38E-05	481	2.50E-04	548	6.51E-04	615	9.44E-04	682	2.30E-04	749	2.52E-05
415	1.59E-05	482	2.51E-04	549	6.58E-04	616	9.37E-04	683	2.24E-04	750	2.44E-05
416	1.86E-05	483	2.53E-04	550	6.62E-04	617	9.25E-04	684	2.17E-04	751	2.37E-05
417	2.00E-05	484	2.55E-04	551	6.71E-04	618	9.16E-04	685	2.11E-04	752	2.30E-05
418	2.26E-05	485	2.61E-04	552	6.78E-04	619	9.08E-04	686	2.05E-04	753	2.26E-05
419	2.45E-05	486	2.67E-04	553	6.86E-04	620	8.96E-04	687	1.99E-04	754	2.18E-05
420	2.66E-05	487	2.73E-04	554	6.91E-04	621	8.91E-04	688	1.93E-04	755	2.10E-05
421	2.93E-05	488	2.78E-04	555	7.01E-04	622	8.81E-04	689	1.88E-04	756	2.05E-05
422	3.36E-05	489	2.82E-04	556	7.07E-04	623	8.70E-04	690	1.81E-04	757	1.94E-05
423	3.75E-05	490	2.91E-04	557	7.14E-04	624	8.60E-04	691	1.76E-04	758	1.94E-05
424	4.14E-05	491	2.95E-04	558	7.19E-04	625	8.51E-04	692	1.69E-04	759	1.85E-05
425	4.57E-05	492	3.04E-04	559	7.27E-04	626	8.39E-04	693	1.65E-04	760	1.80E-05
426	4.94E-05	493	3.11E-04	560	7.38E-04	627	8.29E-04	694	1.60E-04	761	1.76E-05
427	5.70E-05	494	3.21E-04	561	7.42E-04	628	8.19E-04	695	1.55E-04	762	1.73E-05
428	6.45E-05	495	3.29E-04	562	7.52E-04	629	8.07E-04	696	1.50E-04	763	1.68E-05
429	7.09E-05	496	3.39E-04	563	7.59E-04	630	7.96E-04	697	1.45E-04	764	1.61E-05
430	7.90E-05	497	3.50E-04	564	7.68E-04	631	7.85E-04	698	1.40E-04	765	1.56E-05
431	8.78E-05	498	3.58E-04	565	7.74E-04	632	7.74E-04	699	1.36E-04	766	1.53E-05
432	9.60E-05	499	3.73E-04	566	7.84E-04	633	7.62E-04	700	1.31E-04	767	1.48E-05
433	1.05E-04	500	3.83E-04	567	7.92E-04	634	7.53E-04	701	1.28E-04	768	1.44E-05
434	1.14E-04	501	3.92E-04	568	8.02E-04	635	7.40E-04	702	1.23E-04	769	1.39E-05
435	1.26E-04	502	4.03E-04	569	8.13E-04	636	7.25E-04	703	1.19E-04	770	1.34E-05
436	1.42E-04	503	4.11E-04	570	8.23E-04	637	7.17E-04	704	1.15E-04	771	1.27E-05
437	1.58E-04	504	4.23E-04	571	8.29E-04	638	7.02E-04	705	1.11E-04	772	1.26E-05
438	1.75E-04	505	4.32E-04	572	8.40E-04	639	6.90E-04	706	1.07E-04	773	1.25E-05
439	1.99E-04	506	4.40E-04	573	8.49E-04	640	6.75E-04	707	1.04E-04	774	1.17E-05
440	2.23E-04	507	4.50E-04	574	8.55E-04	641	6.57E-04	708	1.00E-04	775	1.13E-05
441	2.48E-04	508	4.57E-04	575	8.65E-04	642	6.49E-04	709	9.64E-05	776	1.09E-05
442	2.81E-04	509	4.67E-04	576	8.71E-04	643	6.35E-04	710	9.31E-05	777	1.06E-05
443	3.20E-04	510	4.73E-04	577	8.83E-04	644	6.23E-04	711	8.99E-05	778	1.03E-05
444	3.65E-04	511	4.79E-04	578	8.89E-04	645	6.11E-04	712	8.62E-05	779	1.03E-05
445	4.11E-04	512	4.85E-04	579	8.95E-04	646	5.96E-04	713	8.46E-05	780	1.03E-05
446	4.68E-04	513	4.92E-04	580	9.02E-04	647	5.84E-04	714	8.12E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	EZP1X4 @25W3500K	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 $25 \pm 1^\circ\text{C}$, 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	0.103	26.3	0.924
NON-WORST CASE	120.0	60	0.213	25.4	0.994

Test Result

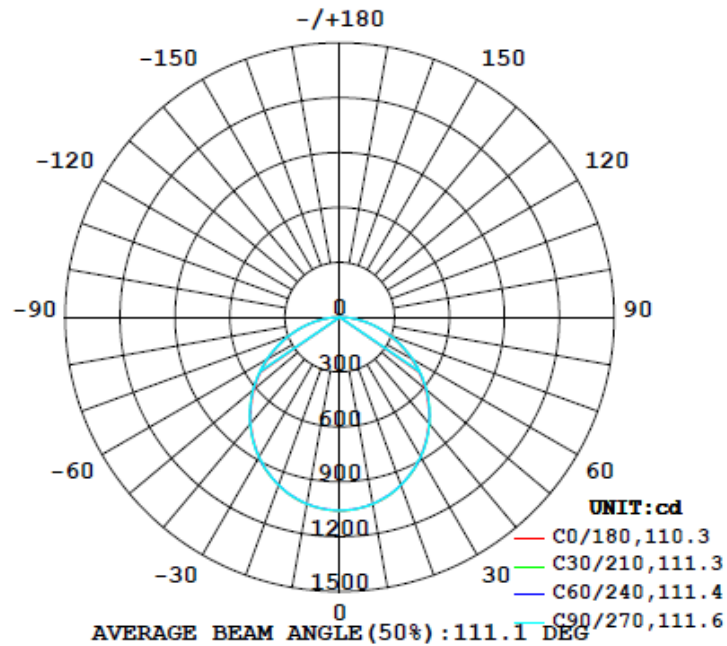
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement (0°-60°)
	C0-180	C90-270	C0-180	C90-270		
3013	164.3	164.4	110.3	111.4	114.6	77.9%

UGR		Spacing Criterion	
Crosswise	Endwise	(0°-180°)	(90°-270°)
20.0	20.0	1.26	1.26

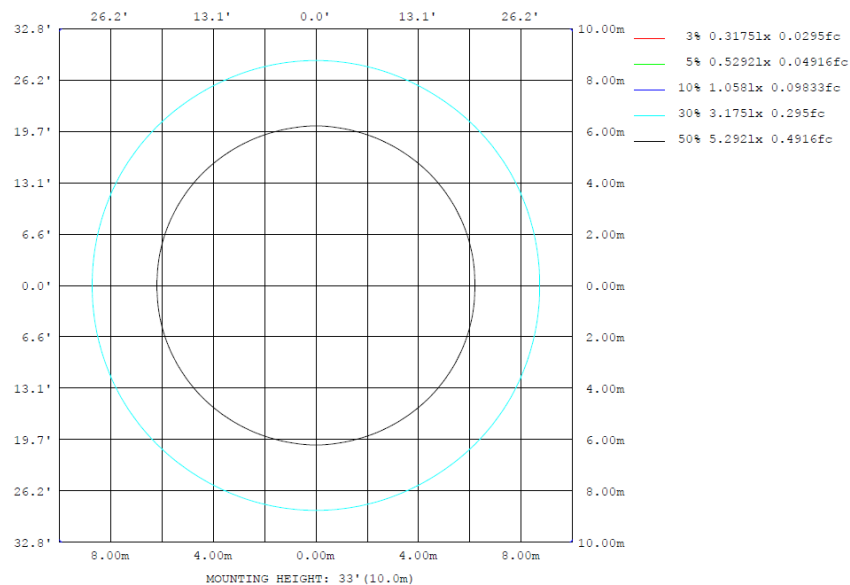
4.2 Goniophotometer Test

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	1038	1037	1037	1037	1038	1037	1037	1037	0- 10	99.92	99.92	3.32,3.32
20	978.8	978.3	976.8	978.3	978.8	978.3	976.8	978.3	10- 20	285.5	385.4	12.8,12.8
30	883.1	882.9	883.8	882.9	883.1	882.9	883.8	882.9	20- 30	430.6	815.9	27.1,27.1
40	757.0	761.9	759.3	761.9	757.0	761.9	759.3	761.9	30- 40	516.1	1332	44.2,44.2
50	609.4	618.1	618.4	618.1	609.4	618.1	618.4	618.1	40- 50	532.9	1865	61.9,61.9
60	451.1	457.4	460.7	457.4	451.1	457.4	460.7	457.4	50- 60	481.0	2346	77.9,77.9
70	289.3	292.8	293.5	292.8	289.3	292.8	293.5	292.8	60- 70	371.1	2717	90.2,90.2
80	134.4	135.5	134.6	135.5	134.4	135.5	134.6	135.5	70- 80	224.2	2941	97.6,97.6
90	0	0	0	0	0	0	0	0	80- 90	71.69	3013	100,100
100	0	0	0	0	0	0	0	0	90-100	0	3013	100,100
110	0	0	0	0	0	0	0	0	100-110	0	3013	100,100
120	0	0	0	0	0	0	0	0	110-120	0	3013	100,100
130	0	0	0	0	0	0	0	0	120-130	0	3013	100,100
140	0	0	0	0	0	0	0	0	130-140	0	3013	100,100
150	0	0	0	0	0	0	0	0	140-150	0	3013	100,100
160	0	0	0	0	0	0	0	0	150-160	0	3013	100,100
170	0	0	0	0	0	0	0	0	160-170	0	3013	100,100
180	0	0	0	0	0	0	0	0	170-180	0	3013	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Zonal (lm)		Total (lm)		Percent
0-10	99.92	0-10	99.92	3.32%
10-20	285.47	0-20	385.39	12.79%
20-30	430.55	0-30	815.94	27.08%
30-40	516.11	0-40	1332.05	44.21%
40-50	532.89	0-50	1864.94	61.90%
50-60	480.98	0-60	2345.92	77.86%
60-70	371.05	0-70	2716.97	90.18%
70-80	224.15	0-80	2941.12	97.62%
80-90	71.69	0-90	3012.81	100.00%
90-100	0.00	0-100	3012.81	100.00%
100-110	0.00	0-110	3012.81	100.00%
110-120	0.00	0-120	3012.81	100.00%
120-130	0.00	0-130	3012.81	100.00%
130-140	0.00	0-140	3012.81	100.00%
140-150	0.00	0-150	3012.81	100.00%
150-160	0.00	0-160	3012.81	100.00%
160-170	0.00	0-170	3012.81	100.00%
170-180	0.00	0-180	3012.81	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	11.6	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	16.0	16.3	14.2	15.6	14.6	16.0	16.4
	6H	14.8	16.1	15.2	16.5	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	17.2	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	17.6	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	17.2	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	18.2	16.5	17.2	16.9	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	16.6	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	17.5	17.5	18.0	18.6

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	15.4	17.0	15.7	17.3	17.7	15.4	17.1	15.8	17.4	17.7
	3H	17.3	18.8	17.6	19.1	19.4	17.3	18.8	17.7	19.1	19.5
	4H	18.0	19.4	18.4	19.8	20.1	18.0	19.4	18.4	19.8	20.2
	6H	18.6	19.9	19.0	20.3	20.6	18.6	19.9	19.0	20.3	20.7
	8H	18.8	20.0	19.2	20.4	20.8	18.8	20.1	19.3	20.5	20.9
	12H	18.9	20.1	19.4	20.5	21.0	19.0	20.2	19.4	20.6	21.0
4H	2H	16.0	17.5	16.4	17.8	18.2	16.1	17.5	16.5	17.8	18.2
	3H	18.2	19.3	18.6	19.7	20.1	18.2	19.4	18.6	19.8	20.2
	4H	19.0	20.1	19.5	20.5	21.0	19.1	20.1	19.5	20.5	21.0
	6H	19.8	20.7	20.2	21.1	21.6	19.8	20.7	20.2	21.2	21.6
	8H	20.0	20.9	20.5	21.4	21.8	20.0	20.9	20.5	21.4	21.8
	12H	20.2	21.0	20.7	21.5	22.0	20.3	21.0	20.7	21.5	22.0
8H	4H	19.4	20.3	19.8	20.7	21.2	19.4	20.3	19.9	20.7	21.2
	6H	20.2	21.0	20.7	21.5	22.0	20.3	21.0	20.7	21.5	22.0
	8H	20.6	21.3	21.1	21.8	22.3	20.6	21.3	21.1	21.8	22.3
	12H	20.9	21.5	21.4	22.0	22.6	20.9	21.5	21.4	22.0	22.6
12H	4H	19.4	20.2	19.9	20.7	21.2	19.5	20.3	19.9	20.7	21.2
	6H	20.4	21.0	20.9	21.5	22.0	20.4	21.0	20.9	21.5	22.0
	8H	20.8	21.3	21.3	21.8	22.4	20.8	21.3	21.3	21.8	22.4

Maximum UGR = 22.6

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	1058	1057	1058	1057	1056	1058	1057	1058	1056	1057	1058	1057	1058	1057	1058	1057	1056	1058	1057
5	1053	1052	1051	1052	1050	1052	1051	1052	1050	1052	1051	1052	1053	1052	1051	1052	1050	1052	1051
10	1038	1039	1036	1037	1036	1034	1037	1034	1036	1037	1036	1039	1038	1039	1036	1037	1036	1034	1037
15	1013	1013	1013	1013	1011	1011	1012	1011	1011	1013	1013	1013	1013	1013	1013	1013	1011	1011	1012
20	979	980	975	978	976	977	977	977	976	978	975	980	979	980	975	978	976	977	977
25	936	937	936	934	932	934	930	934	932	934	936	937	936	937	936	934	932	934	930
30	883	885	883	883	884	883	884	883	884	883	883	885	883	885	883	883	884	883	884
35	822	826	828	825	824	826	828	826	824	825	828	826	822	826	828	825	824	826	828
40	757	759	763	762	761	761	759	761	761	762	763	759	757	759	763	762	761	761	759
45	685	689	694	692	690	692	694	692	690	692	689	685	689	694	692	690	692	694	694
50	609	614	620	618	616	617	618	617	616	618	620	614	609	614	620	618	616	617	618
55	531	536	540	540	539	540	540	539	540	540	536	531	536	540	540	539	540	540	540
60	451	455	459	457	458	458	461	458	457	459	455	451	455	459	457	458	458	461	461
65	370	374	375	376	375	376	376	376	375	376	375	374	370	374	375	376	375	376	376
70	289	292	294	293	292	293	293	293	292	293	294	292	289	292	294	293	292	293	293
75	210	212	213	212	212	211	212	211	212	212	213	212	210	212	213	212	212	211	212
80	134	136	136	136	135	134	135	134	135	136	136	136	134	136	136	136	135	134	135
85	64.2	64.7	65.1	64.6	64.2	64.0	64.1	64.0	64.2	64.6	65.1	64.7	64.2	64.7	65.1	64.6	64.2	64.0	64.1
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) y (DEG)	285	300	315	330	345														
0	1058	1056	1057	1058	1057														
5	1052	1050	1052	1051	1052														
10	1034	1036	1037	1036	1039														
15	1011	1011	1013	1013	1013														
20	977	976	978	975	980														
25	934	932	934	936	937														
30	883	884	883	883	885														
35	826	824	825	828	826														
40	761	761	762	763	759														
45	692	690	692	694	689														
50	617	616	618	620	614														
55	540	539	540	540	536														
60	458	458	457	459	455														
65	376	375	376	375	374														
70	293	292	293	294	292														
75	211	212	212	213	212														
80	134	135	136	136	136														
85	64.0	64.2	64.6	65.1	64.7														
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 @25W3500K	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	0.213	25.4	0.994	10.92
277.0	60	0.103	26.3	0.924	9.64

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*****