

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

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		4568
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Standard	Premium	112.8
		110	125	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		40.5
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	11.68
			277V	15.31
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.993
			277V	0.974
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	5029±283	4764
		4 steps	5029±220	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥80		83.2
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥0		8
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	21.5
		N/A	<22	
Spacing Criterion (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	0°-180°	1.0-2.0	1.26
		90°-270°	1.0-2.0	1.26
Input Voltage (V)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Cast		277.0
(Goniophotometer – Section 4.2)		Non-Worst Case		120.0
Input Current (A)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		0.150
(Goniophotometer – Section 4.2)		Non-Worst Case		0.332
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		40.5
(Goniophotometer – Section 4.2)		Non-Worst Case		39.6

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-01-20	EZP1X4 @40W5000K	-	250117001-S1
2	Goniophotometer Test	2025-01-20	EZP1X4 @40W5000K	-	250117001-S1
3	THD and PF Test	2025-01-20	EZP1X4 @40W5000K	-	250117001-S1

Remark (If any):

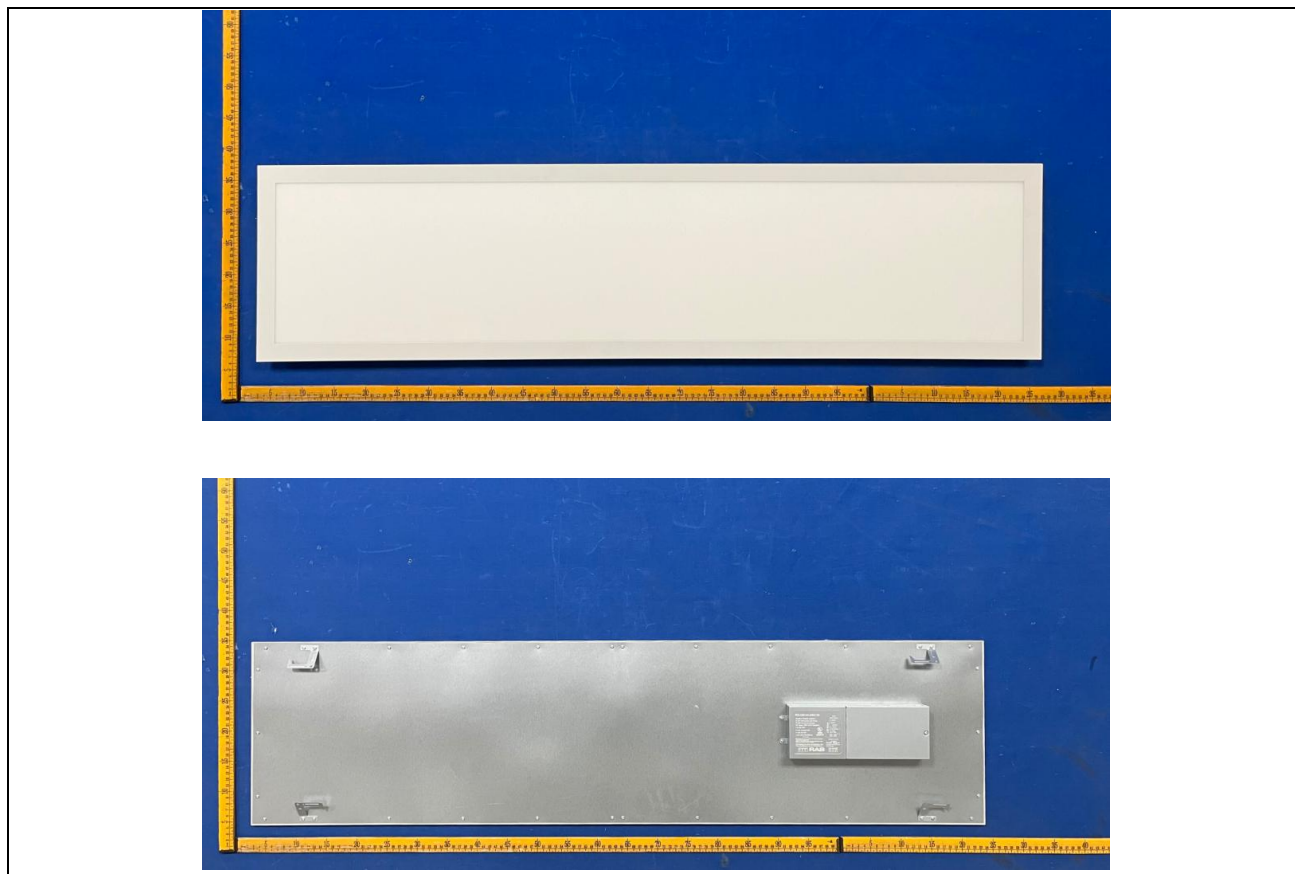
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3.0 Product Description

Luminaire Description: Model No. EZP1X4 @40W5000K, 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 @40W5000K	Sample ID	250117001-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

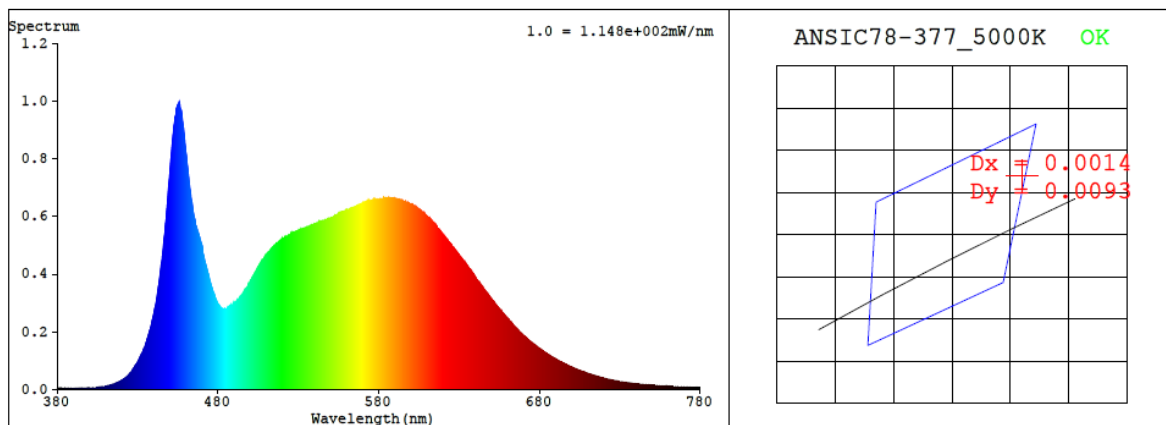
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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	0.332	39.6	0.993
277.0	60	0.150	40.5	0.974

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
4764	83.2	8	0.0040	83	93	-13%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3535$ $y = 0.3664$ / $u' = 0.2113$ $v' = 0.4929$ ($duv=4.04e-03$)

CCT= 4764K Prcp WL: $L_d=572.2nm$ Purity=16.0%

Peak WL: $L_p=456nm$ FWHM: $=24.1nm$ Ratio: R=16.1% G=79.3% B=4.6%

Render Index: $R_a = 83.2$ AvgR = 76.1 TM30:Rf=84 Rg=93

EEL: 0.11750 A+

R1 =81 R2 =91 R3 =96 R4 =79 R5 =81 R6 =86 R7 =87

R8 =66 R9 =8 R10=77 R11=78 R12=56 R13=84 R14=98 R15=75

4.1 Integrating Sphere Test

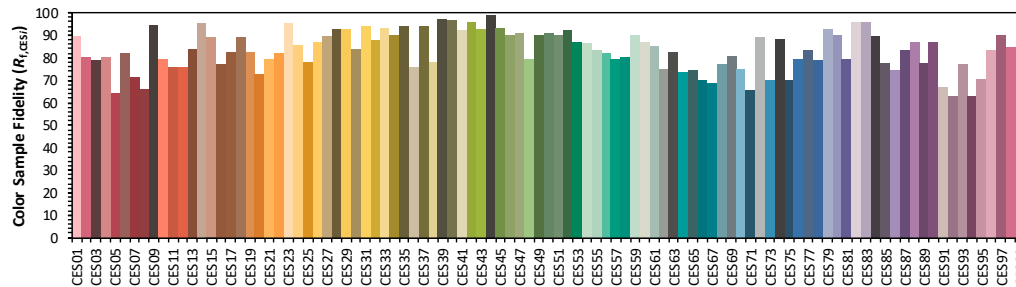
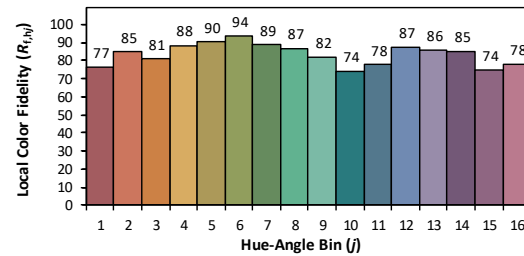
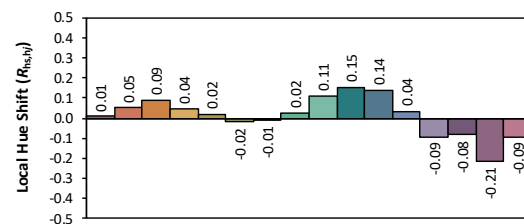
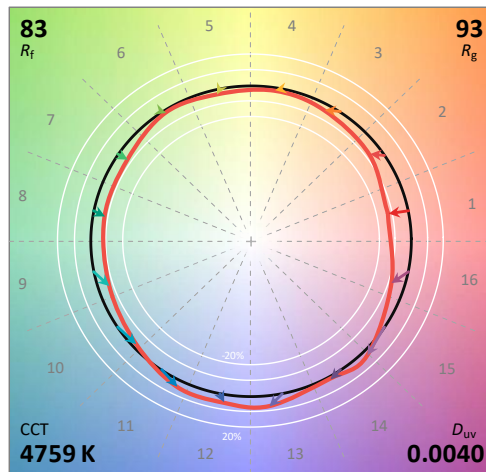
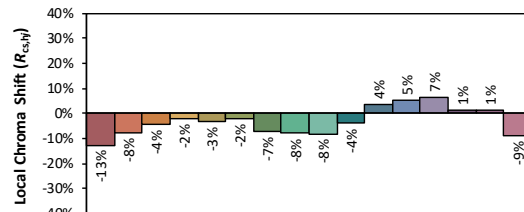
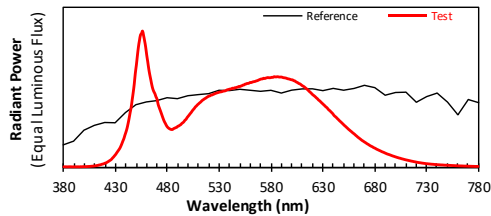
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/1/21

Model: EZP1X4 @40W5000K



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

x 0.3534
 y 0.3663
 u' 0.2114
 v' 0.4928

CIE 13.3-1995
(CRI)
 R_a 83
 R_g 8

4.1 Integrating Sphere Test

Spectral Distribution over Visible Wavelength											
WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)
380	4.00E-06	447	5.51E-04	514	4.93E-04	581	6.61E-04	648	3.30E-04	715	4.69E-05
381	4.00E-06	448	6.13E-04	515	4.98E-04	582	6.60E-04	649	3.22E-04	716	4.51E-05
382	4.00E-06	449	6.90E-04	516	5.04E-04	583	6.65E-04	650	3.15E-04	717	4.38E-05
383	3.60E-06	450	7.49E-04	517	5.08E-04	584	6.64E-04	651	3.07E-04	718	4.19E-05
384	3.80E-06	451	8.18E-04	518	5.13E-04	585	6.63E-04	652	3.01E-04	719	4.07E-05
385	4.10E-06	452	8.83E-04	519	5.18E-04	586	6.65E-04	653	2.94E-04	720	3.88E-05
386	4.20E-06	453	9.31E-04	520	5.23E-04	587	6.64E-04	654	2.87E-04	721	3.74E-05
387	4.00E-06	454	9.71E-04	521	5.24E-04	588	6.62E-04	655	2.79E-04	722	3.59E-05
388	3.50E-06	455	9.82E-04	522	5.30E-04	589	6.63E-04	656	2.73E-04	723	3.46E-05
389	3.50E-06	456	1.00E-03	523	5.31E-04	590	6.63E-04	657	2.66E-04	724	3.36E-05
390	3.80E-06	457	9.67E-04	524	5.35E-04	591	6.61E-04	658	2.60E-04	725	3.24E-05
391	3.80E-06	458	9.28E-04	525	5.37E-04	592	6.58E-04	659	2.53E-04	726	3.11E-05
392	3.80E-06	459	8.83E-04	526	5.41E-04	593	6.57E-04	660	2.48E-04	727	3.02E-05
393	3.80E-06	460	8.25E-04	527	5.44E-04	594	6.56E-04	661	2.42E-04	728	2.90E-05
394	4.00E-06	461	7.75E-04	528	5.47E-04	595	6.54E-04	662	2.34E-04	729	2.81E-05
395	3.40E-06	462	7.22E-04	529	5.49E-04	596	6.50E-04	663	2.28E-04	730	2.68E-05
396	4.50E-06	463	6.79E-04	530	5.51E-04	597	6.49E-04	664	2.21E-04	731	2.64E-05
397	4.10E-06	464	6.42E-04	531	5.53E-04	598	6.47E-04	665	2.16E-04	732	2.54E-05
398	4.70E-06	465	6.03E-04	532	5.54E-04	599	6.44E-04	666	2.10E-04	733	2.47E-05
399	4.80E-06	466	5.73E-04	533	5.56E-04	600	6.42E-04	667	2.04E-04	734	2.39E-05
400	5.10E-06	467	5.54E-04	534	5.59E-04	601	6.42E-04	668	1.98E-04	735	2.30E-05
401	5.10E-06	468	5.39E-04	535	5.60E-04	602	6.36E-04	669	1.93E-04	736	2.25E-05
402	5.50E-06	469	5.17E-04	536	5.62E-04	603	6.35E-04	670	1.88E-04	737	2.20E-05
403	5.90E-06	470	5.00E-04	537	5.66E-04	604	6.29E-04	671	1.83E-04	738	2.10E-05
404	6.40E-06	471	4.64E-04	538	5.69E-04	605	6.24E-04	672	1.78E-04	739	2.05E-05
405	6.70E-06	472	4.41E-04	539	5.71E-04	606	6.21E-04	673	1.72E-04	740	1.98E-05
406	7.40E-06	473	4.20E-04	540	5.74E-04	607	6.15E-04	674	1.68E-04	741	1.94E-05
407	8.20E-06	474	3.99E-04	541	5.75E-04	608	6.13E-04	675	1.63E-04	742	1.89E-05
408	8.70E-06	475	3.77E-04	542	5.77E-04	609	6.07E-04	676	1.58E-04	743	1.84E-05
409	9.50E-06	476	3.56E-04	543	5.81E-04	610	6.01E-04	677	1.54E-04	744	1.78E-05
410	1.08E-05	477	3.37E-04	544	5.79E-04	611	5.96E-04	678	1.51E-04	745	1.75E-05
411	1.17E-05	478	3.23E-04	545	5.84E-04	612	5.92E-04	679	1.46E-04	746	1.72E-05
412	1.34E-05	479	3.08E-04	546	5.84E-04	613	5.85E-04	680	1.42E-04	747	1.64E-05
413	1.48E-05	480	2.96E-04	547	5.87E-04	614	5.79E-04	681	1.38E-04	748	1.59E-05
414	1.71E-05	481	2.89E-04	548	5.89E-04	615	5.73E-04	682	1.34E-04	749	1.56E-05
415	1.82E-05	482	2.83E-04	549	5.93E-04	616	5.66E-04	683	1.30E-04	750	1.52E-05
416	2.05E-05	483	2.80E-04	550	5.93E-04	617	5.57E-04	684	1.27E-04	751	1.47E-05
417	2.31E-05	484	2.78E-04	551	5.97E-04	618	5.51E-04	685	1.23E-04	752	1.44E-05
418	2.48E-05	485	2.78E-04	552	5.99E-04	619	5.44E-04	686	1.20E-04	753	1.42E-05
419	2.77E-05	486	2.84E-04	553	6.04E-04	620	5.36E-04	687	1.16E-04	754	1.37E-05
420	3.12E-05	487	2.87E-04	554	6.05E-04	621	5.29E-04	688	1.12E-04	755	1.33E-05
421	3.36E-05	488	2.91E-04	555	6.10E-04	622	5.24E-04	689	1.10E-04	756	1.30E-05
422	3.84E-05	489	2.94E-04	556	6.12E-04	623	5.17E-04	690	1.06E-04	757	1.26E-05
423	4.29E-05	490	3.01E-04	557	6.16E-04	624	5.09E-04	691	1.03E-04	758	1.22E-05
424	4.82E-05	491	3.04E-04	558	6.16E-04	625	5.03E-04	692	9.90E-05	759	1.17E-05
425	5.30E-05	492	3.09E-04	559	6.18E-04	626	4.94E-04	693	9.63E-05	760	1.15E-05
426	5.90E-05	493	3.14E-04	560	6.23E-04	627	4.89E-04	694	9.39E-05	761	1.10E-05
427	6.82E-05	494	3.23E-04	561	6.22E-04	628	4.81E-04	695	9.11E-05	762	1.06E-05
428	7.59E-05	495	3.28E-04	562	6.26E-04	629	4.74E-04	696	8.83E-05	763	1.04E-05
429	8.55E-05	496	3.35E-04	563	6.28E-04	630	4.66E-04	697	8.52E-05	764	1.02E-05
430	9.44E-05	497	3.46E-04	564	6.29E-04	631	4.59E-04	698	8.25E-05	765	9.90E-06
431	1.06E-04	498	3.52E-04	565	6.31E-04	632	4.52E-04	699	8.02E-05	766	9.50E-06
432	1.17E-04	499	3.65E-04	566	6.35E-04	633	4.44E-04	700	7.74E-05	767	9.20E-06
433	1.28E-04	500	3.74E-04	567	6.36E-04	634	4.39E-04	701	7.50E-05	768	9.10E-06
434	1.40E-04	501	3.84E-04	568	6.40E-04	635	4.30E-04	702	7.24E-05	769	8.80E-06
435	1.55E-04	502	3.94E-04	569	6.43E-04	636	4.21E-04	703	7.03E-05	770	8.50E-06
436	1.73E-04	503	4.03E-04	570	6.47E-04	637	4.15E-04	704	6.78E-05	771	8.10E-06
437	1.93E-04	504	4.14E-04	571	6.49E-04	638	4.07E-04	705	6.63E-05	772	8.00E-06
438	2.12E-04	505	4.24E-04	572	6.49E-04	639	4.00E-04	706	6.35E-05	773	7.80E-06
439	2.37E-04	506	4.32E-04	573	6.54E-04	640	3.91E-04	707	6.16E-05	774	7.50E-06
440	2.60E-04	507	4.43E-04	574	6.52E-04	641	3.80E-04	708	5.97E-05	775	7.20E-06
441	2.86E-04	508	4.50E-04	575	6.55E-04	642	3.74E-04	709	5.74E-05	776	7.20E-06
442	3.20E-04	509	4.59E-04	576	6.57E-04	643	3.67E-04	710	5.56E-05	777	6.70E-06
443	3.59E-04	510	4.65E-04	577	6.59E-04	644	3.59E-04	711	5.37E-05	778	6.60E-06
444	4.01E-04	511	4.72E-04	578	6.58E-04	645	3.52E-04	712	5.22E-05	779	6.60E-06
445	4.40E-04	512	4.78E-04	579	6.58E-04	646	3.44E-04	713	5.03E-05	780	6.60E-06
446	4.96E-04	513	4.86E-04	580	6.59E-04	647	3.37E-04	714	4.87E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	EZP1X4 @40W5000K	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	0.150	40.5	0.974
NON-WORST CASE	120.0	60	0.332	39.6	0.993

Test Result

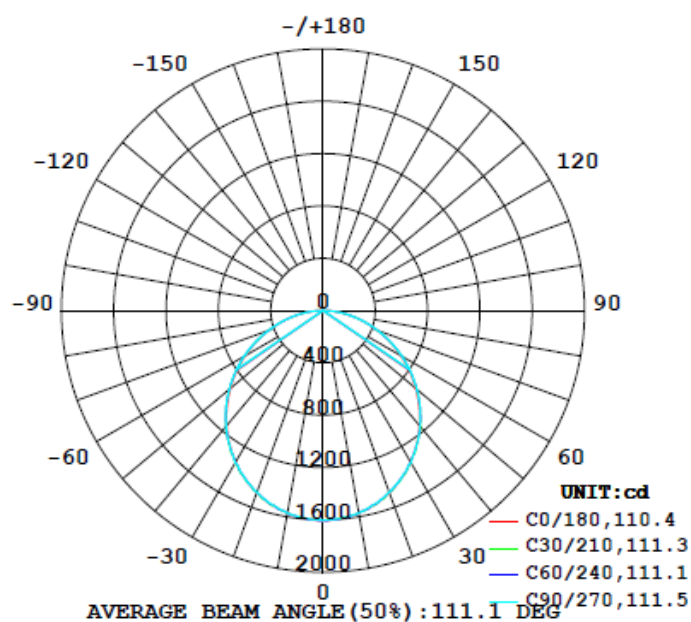
Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement (0°-60°)
	C0-180	C90-270	C0-180	C90-270		
4568	164.3	164.4	110.5	111.4	112.8	77.9%

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

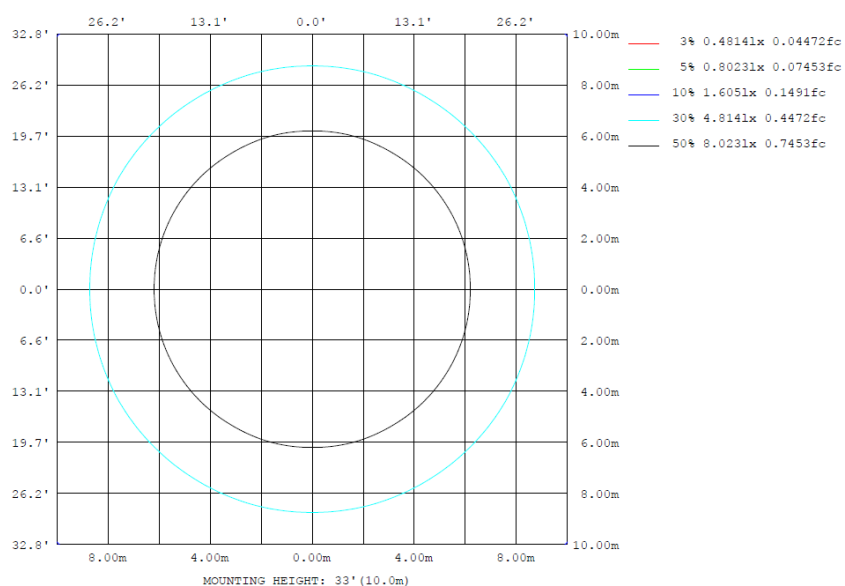
4.2 Goniophotometer Test

Lighting Distribution Curve

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



Isolux Plot



4.2 Goniophotometer Test

Zonal Lumen Summary

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	φ zone	φ total	lum, lamp
10	1571	1567	1571	1567	1571	1567	1571	1567	0- 10	151.5	151.5	3.32,3.32
20	1484	1480	1480	1480	1484	1480	1480	1480	10- 20	432.7	584.1	12.8,12.8
30	1336	1335	1342	1335	1336	1335	1342	1335	20- 30	652.8	1237	27.1,27.1
40	1147	1155	1154	1155	1147	1155	1154	1155	30- 40	782.4	2019	44.2,44.2
50	923.3	934.0	936.3	934.0	923.3	934.0	936.3	934.0	40- 50	807.9	2827	61.9,61.9
60	684.8	692.2	697.5	692.2	684.8	692.2	697.5	692.2	50- 60	729.6	3557	77.9,77.9
70	438.5	445.4	444.6	445.4	438.5	445.4	444.6	445.4	60- 70	562.9	4120	90.2,90.2
80	203.3	204.6	204.0	204.6	203.3	204.6	204.0	204.6	70- 80	340.0	4460	97.6,97.6
90	0	0	0	0	0	0	0	0	80- 90	108.4	4568	100,100
100	0	0	0	0	0	0	0	0	90-100	0	4568	100,100
110	0	0	0	0	0	0	0	0	100-110	0	4568	100,100
120	0	0	0	0	0	0	0	0	110-120	0	4568	100,100
130	0	0	0	0	0	0	0	0	120-130	0	4568	100,100
140	0	0	0	0	0	0	0	0	130-140	0	4568	100,100
150	0	0	0	0	0	0	0	0	140-150	0	4568	100,100
160	0	0	0	0	0	0	0	0	150-160	0	4568	100,100
170	0	0	0	0	0	0	0	0	160-170	0	4568	100,100
180	0	0	0	0	0	0	0	0	170-180	0	4568	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

	Zonal (lm)		Total (lm)	Percent
0-10	151.47	0-10	151.47	3.32%
10-20	432.66	0-20	584.13	12.79%
20-30	652.75	0-30	1236.88	27.08%
30-40	782.43	0-40	2019.31	44.20%
40-50	807.92	0-50	2827.23	61.89%
50-60	729.64	0-60	3556.87	77.86%
60-70	562.88	0-70	4119.75	90.18%
70-80	339.96	0-80	4459.71	97.63%
80-90	108.45	0-90	4568.16	100.00%
90-100	0.00	0-100	4568.16	100.00%
100-110	0.00	0-110	4568.16	100.00%
110-120	0.00	0-120	4568.16	100.00%
120-130	0.00	0-130	4568.16	100.00%
130-140	0.00	0-140	4568.16	100.00%
140-150	0.00	0-150	4568.16	100.00%
150-160	0.00	0-160	4568.16	100.00%
160-170	0.00	0-170	4568.16	100.00%
170-180	0.00	0-180	4568.16	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		11.6	13.2	12.0	13.6	13.9	11.7	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	14.3	15.7	14.7	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	12.3	13.7	12.7	14.0	14.4	12.3	13.7	12.7	14.1
		3H	14.4	15.6	14.8	15.9	16.3	14.4	15.6	14.8	16.0
		4H	15.2	16.3	15.7	16.7	17.2	15.3	16.3	15.7	16.8
		6H	16.0	16.9	16.4	17.3	17.8	16.0	16.9	16.4	17.4
		8H	16.2	17.1	16.7	17.6	18.0	16.2	17.1	16.7	17.6
		12H	16.4	17.2	16.9	17.7	18.2	16.5	17.3	16.9	17.7
8H		4H	15.6	16.5	16.0	16.9	17.4	15.6	16.5	16.1	16.9
		6H	16.4	17.2	16.9	17.7	18.2	16.5	17.2	17.0	17.7
		8H	16.8	17.5	17.3	18.0	18.5	16.8	17.5	17.3	18.0
		12H	17.1	17.7	17.6	18.2	18.8	17.1	17.7	17.6	18.2
12H		4H	15.6	16.4	16.1	16.9	17.4	15.7	16.5	16.2	16.9
		6H	16.6	17.2	17.1	17.7	18.2	16.6	17.2	17.1	17.7
		8H	17.0	17.5	17.5	18.0	18.6	17.0	17.6	17.5	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		UGR Viewed Crosswise					UGR Viewed Endwise				
Y=2H		16.9	18.5	17.3	18.9	19.2	17.0	18.6	17.3	18.9	19.2
3H		18.8	20.3	19.1	20.6	20.9	18.8	20.3	19.2	20.6	21.0
4H		19.5	20.9	19.9	21.3	21.6	19.6	21.0	20.0	21.3	21.7
6H		20.1	21.4	20.5	21.8	22.1	20.1	21.4	20.5	21.8	22.2
8H		20.3	21.5	20.7	21.9	22.3	20.3	21.6	20.8	22.0	22.4
12H		20.4	21.6	20.9	22.0	22.5	20.5	21.7	20.9	22.1	22.5
4H		2H	17.6	19.0	18.0	19.3	19.7	17.6	19.0	18.0	19.4
		3H	19.7	20.9	20.1	21.2	21.6	19.7	20.9	20.1	21.3
		4H	20.5	21.6	21.0	22.0	22.5	20.6	21.6	21.0	22.1
		6H	21.3	22.2	21.7	22.6	23.1	21.3	22.2	21.7	22.7
		8H	21.5	22.4	22.0	22.9	23.3	21.5	22.4	22.0	22.9
		12H	21.7	22.5	22.2	23.0	23.5	21.8	22.6	22.2	23.0
8H		4H	20.9	21.8	21.3	22.2	22.7	20.9	21.8	21.4	22.2
		6H	21.7	22.5	22.2	23.0	23.5	21.8	22.5	22.3	23.0
		8H	22.1	22.8	22.6	23.3	23.8	22.1	22.8	22.6	23.3
		12H	22.4	23.0	22.9	23.5	24.1	22.4	23.0	22.9	23.5
12H		4H	20.9	21.7	21.4	22.2	22.7	21.0	21.8	21.5	22.2
		6H	21.9	22.5	22.4	23.0	23.5	21.9	22.5	22.4	23.0
		8H	22.3	22.8	22.8	23.3	23.9	22.3	22.9	22.8	23.3

Maximum UGR = 24.1

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	1605	1603	1602	1599	1604	1606	1604	1606	1604	1599	1602	1603	1605	1603	1602	1599	1604	1606	1604
5	1593	1594	1590	1591	1593	1603	1592	1603	1593	1591	1590	1594	1593	1594	1590	1591	1593	1603	1592
10	1571	1572	1572	1567	1574	1573	1571	1573	1574	1567	1572	1572	1571	1572	1572	1567	1574	1573	1571
15	1536	1532	1539	1530	1535	1533	1529	1533	1535	1530	1539	1532	1536	1532	1539	1530	1535	1533	1529
20	1484	1482	1476	1480	1480	1483	1480	1483	1480	1480	1476	1482	1484	1482	1476	1480	1480	1483	1480
25	1416	1417	1418	1412	1413	1418	1415	1418	1413	1412	1418	1417	1416	1417	1418	1412	1413	1418	1415
30	1336	1340	1345	1335	1340	1342	1342	1340	1335	1345	1340	1336	1340	1345	1335	1340	1345	1335	1342
35	1247	1250	1252	1251	1247	1255	1249	1255	1247	1251	1252	1250	1247	1250	1252	1251	1247	1255	1249
40	1147	1152	1155	1155	1153	1156	1154	1156	1153	1155	1155	1152	1147	1152	1155	1155	1153	1156	1154
45	1038	1045	1050	1047	1052	1050	1049	1050	1052	1047	1050	1045	1038	1045	1050	1047	1052	1050	1049
50	923	931	936	934	935	937	936	937	935	934	936	931	923	931	936	934	935	937	936
55	808	816	817	819	817	822	820	822	817	819	817	816	808	816	817	819	817	822	820
60	685	690	695	692	696	697	698	697	696	692	695	690	685	690	695	692	696	697	698
65	561	566	571	568	570	572	571	572	570	568	571	566	561	566	571	568	570	572	571
70	438	443	444	445	444	445	445	445	444	445	444	443	438	443	444	445	444	445	445
75	318	321	323	321	321	321	321	321	321	321	323	321	318	321	323	321	321	321	321
80	203	205	207	205	205	204	204	205	205	207	205	203	205	207	205	205	204	204	204
85	97.2	97.7	98.2	97.9	97.2	97.4	97.3	97.4	97.2	97.9	98.2	97.7	97.2	97.7	98.2	97.9	97.2	97.4	97.3
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	1606	1604	1599	1602	1603														
5	1603	1593	1591	1590	1594														
10	1573	1574	1567	1572	1572														
15	1533	1535	1530	1539	1532														
20	1483	1480	1480	1476	1482														
25	1418	1413	1412	1418	1417														
30	1342	1340	1335	1345	1340														
35	1255	1247	1251	1252	1250														
40	1156	1153	1155	1155	1152														
45	1050	1052	1047	1050	1045														
50	937	935	934	936	931														
55	822	817	819	817	816														
60	697	696	692	695	690														
65	572	570	568	571	566														
70	445	444	445	444	443														
75	321	321	321	323	321														
80	204	205	205	207	205														
85	97.4	97.2	97.9	98.2	97.7														
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 @40W5000K	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	0.332	39.6	0.993	11.68
277.0	60	0.150	40.5	0.974	15.31

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*****