

Photometric Test Report

Relevant Standards

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

Prepared For

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1.0 Test Summary

DLC Technical Requirements V5.1

Outdoor Non-Cutoff and Semi-Cutoff Wall-Mounted Area Luminaires				
Requirement Category	Test Method	Requirements		Test Value
Luminaire Output (lm) (Goniophotometer – Section 4.2) (0°-180° zones)	ANSI/IES LM-79:2019	N/A		9693
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2) (0°-180° zones)	ANSI/IES LM-79:2019	N/A		141.1
Luminaire Output (lm) (Goniophotometer – Section 4.2) (0°-90° zones)	ANSI/IES LM-79:2019	300		9443
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2) (0°-90° zones)	ANSI/IES LM-79:2019	Standard	Premium	137.5
		105	120	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		68.7
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	9.65
			277V	9.50
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	5119
		4 steps	5029±220	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥70		82.5
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79-2019 CIE13.3-1995	N/A		10
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		96
IES Rcs,h1 (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	-18%≤IES Rcs,h1≤+23%		-13%
Zonal Lumen Requirement (80°-90°) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	≤10%		5.3%
Input Voltage (V)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Cast		120.0
(Goniophotometer – Section 4.2)		Non-Worst Case		277.0
Input Current (A)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		0.577
(Goniophotometer – Section 4.2)		Non-Worst Case		0.253
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		68.7
(Goniophotometer – Section 4.2)		Non-Worst Case		68.2

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2024-10-09	PWLED @72W5000K	-	241009001-S1
2	Goniophotometer Test	2024-10-09	PWLED @72W5000K	-	241009001-S1
3	THD and PF Test	2024-10-09	PWLED @72W5000K	-	241009001-S1
Remark (If any):					
<ol style="list-style-type: none"> The results contained in this report pertain only to the tested samples. This report shall not be reproduced, no limited part or full, without approval of Dongguan New Testing Centre Co., Ltd. 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. PWLED @72W5000K, color tunable from 3000K, 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.	PWLED @72W5000K	Sample ID	241009001-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

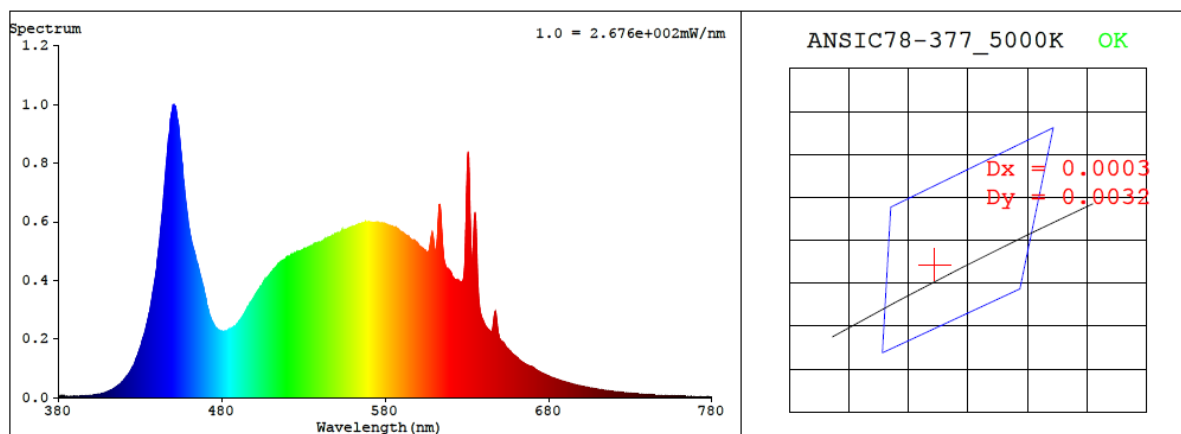
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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	0.577	68.7	0.993
277.0	60	0.253	68.2	0.974

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
5119	82.5	10	0.0015	83	96	-13%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3422$ $y = 0.3522$ / $u' = 0.2092$ $v' = 0.4845$ ($duv=1.46e-03$)

CCT= 5119K Prcp WL: $L_d=569.4nm$ Purity=8.3%

Peak WL: $L_p=450nm$ FWHM: $=21.8nm$ Ratio:R=15.5% G=80.0% B=4.5%

Render Index: $R_a = 82.5$ AvgR = 75.6 TM30:Rf=83 Rg=96

EEL: 0.09630 A++ Highest

R1 =81 R2 =87 R3 =91 R4 =82 R5 =82 R6 =82 R7 =87

R8 =69 R9 =10 R10=68 R11=81 R12=61 R13=82 R14=95 R15=76

4.1 Integrating Sphere Test

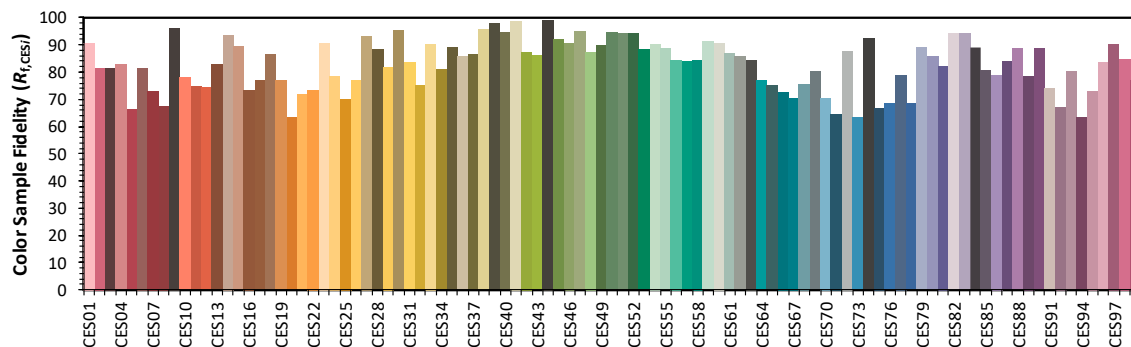
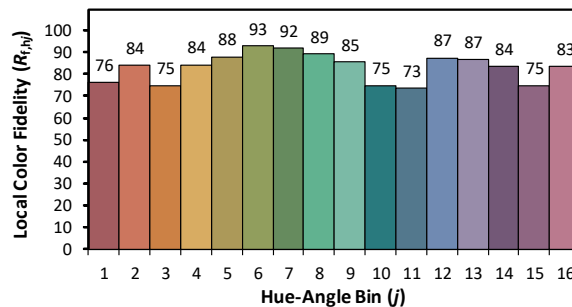
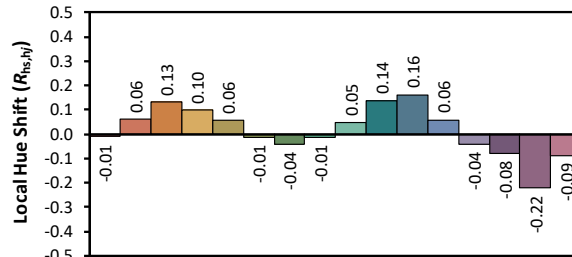
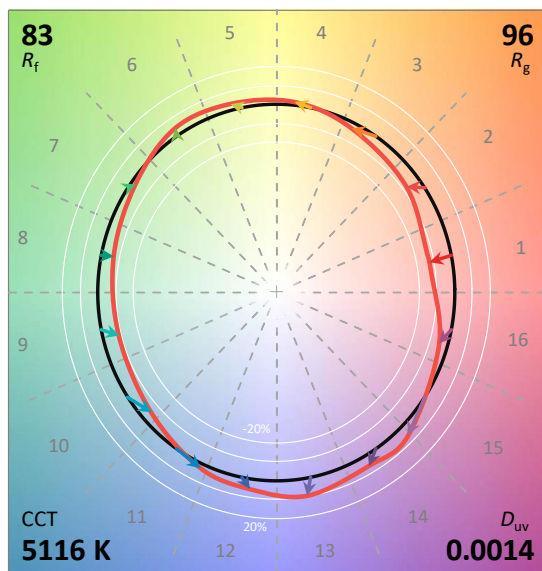
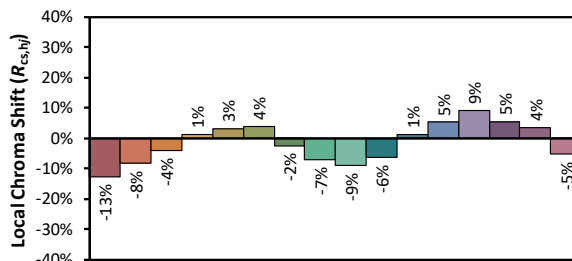
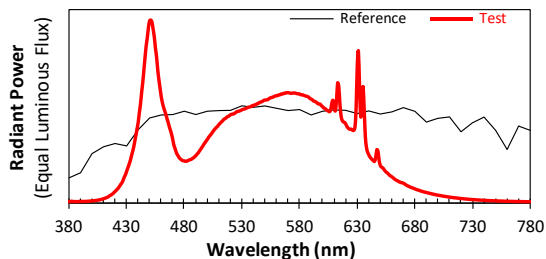
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2024/10/10

Model: PWLED @72W5000K



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

x 0.3421
 y 0.3520
 u' 0.2093
 v' 0.4844

CIE 13.3-1995
(CRI)

R_a 82
 R_g 10

4.1 Integrating Sphere Test

Spectral Distribution over Visible Wavelength											
WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)
380	5.60E-06	447	8.58E-04	514	4.51E-04	581	5.88E-04	648	2.79E-04	715	2.48E-05
381	2.60E-06	448	9.04E-04	515	4.56E-04	582	5.88E-04	649	2.29E-04	716	2.42E-05
382	6.50E-06	449	9.60E-04	516	4.60E-04	583	5.86E-04	650	2.02E-04	717	2.34E-05
383	5.20E-06	450	9.93E-04	517	4.66E-04	584	5.84E-04	651	1.93E-04	718	2.25E-05
384	4.20E-06	451	9.96E-04	518	4.69E-04	585	5.82E-04	652	1.89E-04	719	2.17E-05
385	4.90E-06	452	9.83E-04	519	4.73E-04	586	5.80E-04	653	1.82E-04	720	2.10E-05
386	4.10E-06	453	9.44E-04	520	4.79E-04	587	5.78E-04	654	1.73E-04	721	2.04E-05
387	3.80E-06	454	9.03E-04	521	4.81E-04	588	5.74E-04	655	1.66E-04	722	1.99E-05
388	4.60E-06	455	8.41E-04	522	4.83E-04	589	5.67E-04	656	1.61E-04	723	1.91E-05
389	5.10E-06	456	7.92E-04	523	4.84E-04	590	5.64E-04	657	1.55E-04	724	1.87E-05
390	5.00E-06	457	7.21E-04	524	4.88E-04	591	5.61E-04	658	1.48E-04	725	1.80E-05
391	5.60E-06	458	6.69E-04	525	4.93E-04	592	5.54E-04	659	1.44E-04	726	1.74E-05
392	5.40E-06	459	6.23E-04	526	4.97E-04	593	5.52E-04	660	1.40E-04	727	1.69E-05
393	5.10E-06	460	5.78E-04	527	4.98E-04	594	5.49E-04	661	1.35E-04	728	1.63E-05
394	5.20E-06	461	5.45E-04	528	5.00E-04	595	5.44E-04	662	1.29E-04	729	1.58E-05
395	5.90E-06	462	5.21E-04	529	5.02E-04	596	5.38E-04	663	1.25E-04	730	1.53E-05
396	6.00E-06	463	5.00E-04	530	5.06E-04	597	5.37E-04	664	1.21E-04	731	1.50E-05
397	6.60E-06	464	4.81E-04	531	5.08E-04	598	5.35E-04	665	1.18E-04	732	1.44E-05
398	6.80E-06	465	4.57E-04	532	5.10E-04	599	5.28E-04	666	1.14E-04	733	1.40E-05
399	7.50E-06	466	4.37E-04	533	5.12E-04	600	5.23E-04	667	1.11E-04	734	1.36E-05
400	8.30E-06	467	4.13E-04	534	5.15E-04	601	5.15E-04	668	1.08E-04	735	1.32E-05
401	9.00E-06	468	3.93E-04	535	5.18E-04	602	5.13E-04	669	1.07E-04	736	1.27E-05
402	9.40E-06	469	3.71E-04	536	5.21E-04	603	5.08E-04	670	1.05E-04	737	1.25E-05
403	1.02E-05	470	3.43E-04	537	5.22E-04	604	5.02E-04	671	1.01E-04	738	1.21E-05
404	1.10E-05	471	3.12E-04	538	5.24E-04	605	4.99E-04	672	9.66E-05	739	1.17E-05
405	1.23E-05	472	2.94E-04	539	5.29E-04	606	4.95E-04	673	9.26E-05	740	1.13E-05
406	1.31E-05	473	2.74E-04	540	5.29E-04	607	5.06E-04	674	8.96E-05	741	1.11E-05
407	1.46E-05	474	2.60E-04	541	5.32E-04	608	5.44E-04	675	8.65E-05	742	1.06E-05
408	1.59E-05	475	2.51E-04	542	5.34E-04	609	5.57E-04	676	8.35E-05	743	1.00E-05
409	1.82E-05	476	2.41E-04	543	5.38E-04	610	5.19E-04	677	8.09E-05	744	9.80E-06
410	2.01E-05	477	2.35E-04	544	5.39E-04	611	5.00E-04	678	7.91E-05	745	9.50E-06
411	2.25E-05	478	2.30E-04	545	5.45E-04	612	5.55E-04	679	7.60E-05	746	9.50E-06
412	2.46E-05	479	2.28E-04	546	5.47E-04	613	6.52E-04	680	7.40E-05	747	9.20E-06
413	2.75E-05	480	2.27E-04	547	5.50E-04	614	6.31E-04	681	7.10E-05	748	8.90E-06
414	3.03E-05	481	2.24E-04	548	5.53E-04	615	5.35E-04	682	6.89E-05	749	8.50E-06
415	3.53E-05	482	2.26E-04	549	5.57E-04	616	4.71E-04	683	6.72E-05	750	8.40E-06
416	3.89E-05	483	2.27E-04	550	5.59E-04	617	4.47E-04	684	6.50E-05	751	8.20E-06
417	4.30E-05	484	2.31E-04	551	5.60E-04	618	4.40E-04	685	6.25E-05	752	7.90E-06
418	4.75E-05	485	2.33E-04	552	5.61E-04	619	4.37E-04	686	6.08E-05	753	7.50E-06
419	5.38E-05	486	2.35E-04	553	5.64E-04	620	4.28E-04	687	5.88E-05	754	7.30E-06
420	5.97E-05	487	2.40E-04	554	5.69E-04	621	4.15E-04	688	5.69E-05	755	7.30E-06
421	6.61E-05	488	2.44E-04	555	5.71E-04	622	4.07E-04	689	5.56E-05	756	7.00E-06
422	7.24E-05	489	2.49E-04	556	5.74E-04	623	4.01E-04	690	5.40E-05	757	6.70E-06
423	8.05E-05	490	2.55E-04	557	5.75E-04	624	4.00E-04	691	5.22E-05	758	6.40E-06
424	8.95E-05	491	2.63E-04	558	5.79E-04	625	3.99E-04	692	5.09E-05	759	6.20E-06
425	9.97E-05	492	2.70E-04	559	5.81E-04	626	3.94E-04	693	4.91E-05	760	6.00E-06
426	1.08E-04	493	2.79E-04	560	5.83E-04	627	3.94E-04	694	4.79E-05	761	6.10E-06
427	1.22E-04	494	2.88E-04	561	5.83E-04	628	4.09E-04	695	4.60E-05	762	5.70E-06
428	1.39E-04	495	2.98E-04	562	5.87E-04	629	5.09E-04	696	4.48E-05	763	5.60E-06
429	1.52E-04	496	3.07E-04	563	5.88E-04	630	7.43E-04	697	4.32E-05	764	5.60E-06
430	1.70E-04	497	3.17E-04	564	5.92E-04	631	8.27E-04	698	4.18E-05	765	5.30E-06
431	1.88E-04	498	3.26E-04	565	5.92E-04	632	6.29E-04	699	4.06E-05	766	5.10E-06
432	2.06E-04	499	3.36E-04	566	5.95E-04	633	4.68E-04	700	3.92E-05	767	5.00E-06
433	2.25E-04	500	3.44E-04	567	5.95E-04	634	5.38E-04	701	3.84E-05	768	4.80E-06
434	2.49E-04	501	3.55E-04	568	5.99E-04	635	6.33E-04	702	3.73E-05	769	4.70E-06
435	2.74E-04	502	3.63E-04	569	5.98E-04	636	5.10E-04	703	3.61E-05	770	4.50E-06
436	2.98E-04	503	3.71E-04	570	6.00E-04	637	3.62E-04	704	3.47E-05	771	4.40E-06
437	3.32E-04	504	3.79E-04	571	5.98E-04	638	3.00E-04	705	3.38E-05	772	4.20E-06
438	3.65E-04	505	3.88E-04	572	5.96E-04	639	2.74E-04	706	3.30E-05	773	4.20E-06
439	4.00E-04	506	3.96E-04	573	5.96E-04	640	2.61E-04	707	3.17E-05	774	3.90E-06
440	4.36E-04	507	4.04E-04	574	5.97E-04	641	2.48E-04	708	3.07E-05	775	3.90E-06
441	4.90E-04	508	4.11E-04	575	5.97E-04	642	2.40E-04	709	2.99E-05	776	3.90E-06
442	5.37E-04	509	4.17E-04	576	5.97E-04	643	2.33E-04	710	2.88E-05	777	3.60E-06
443	6.00E-04	510	4.25E-04	577	5.95E-04	644	2.28E-04	711	2.77E-05	778	3.70E-06
444	6.56E-04	511	4.32E-04	578	5.94E-04	645	2.24E-04	712	2.73E-05	779	3.60E-06
445	7.25E-04	512	4.38E-04	579	5.93E-04	646	2.45E-04	713	2.63E-05	780	3.60E-06
446	7.95E-04	513	4.44E-04	580	5.92E-04	647	2.88E-04	714	2.54E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	PWLED @72W5000K	Sample ID	241009001-S1
Operate time (Min.)	30	Stabilization time (Min.)	60
Temperature (°C)	25.0	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	120.0	60	0.577	68.7	0.993
NON-WORST CASE	277.0	60	0.253	68.2	0.974

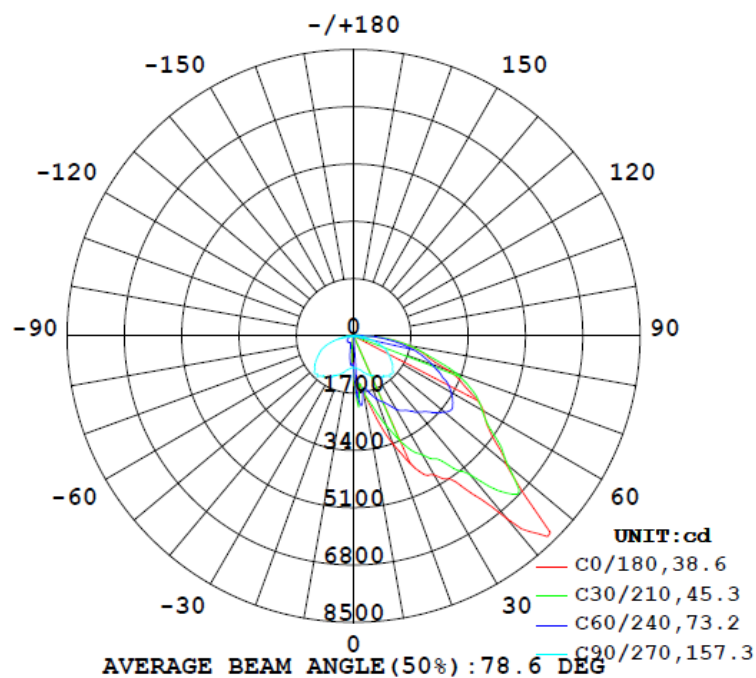
Test Result

Result Type	Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement (80°-90°)	BUG
		C0-180	C90-270	C0-180	C90-270			
0°-180° zones	9693	90.7	151.0	39.9	83.7	141.1	5.2%	B1-U3-G3
0°-90° zones	9443	90.7	151.0	39.9	83.7	137.5	5.3%	B1-U3-G3

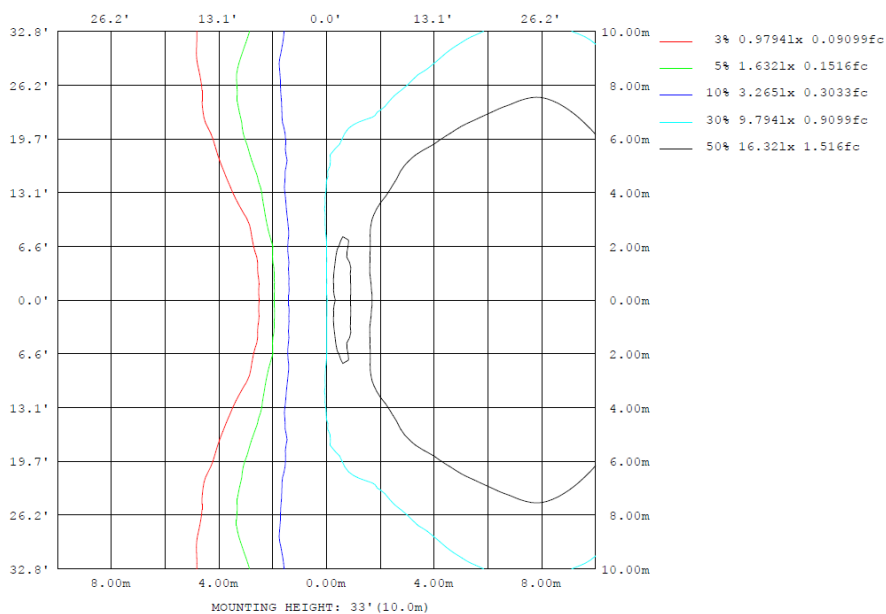
4.2 Goniophotometer Test

Lighting Distribution Curve

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



Isolux Plot



4.2 Goniophotometer Test

Zonal Lumen Summary

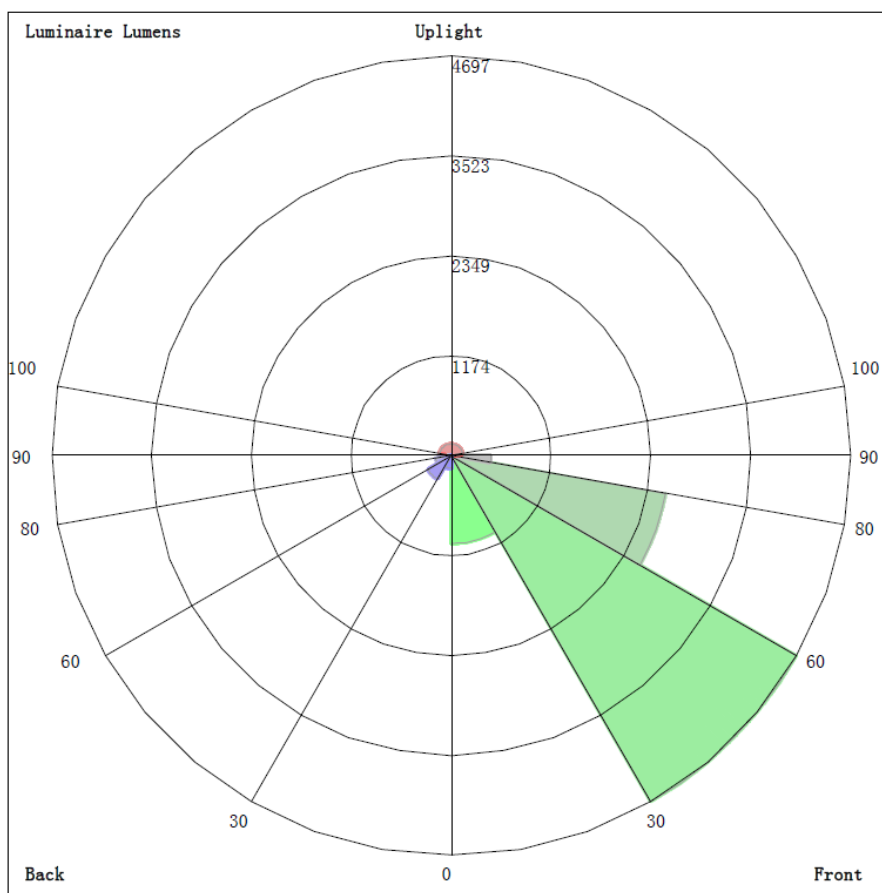
ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	zone	total	lum, lamp
10	1740	1535	1013	418.6	221.5	418.6	1013	1535	0- 10	110.5	110.5	1.14,1.14
20	3411	2305	1208	132.2	63.61	132.2	1208	2305	10- 20	336.3	446.7	4.61,4.61
30	4762	3287	1372	110.9	42.81	110.9	1372	3287	20- 30	734.1	1181	12.2,12.2
40	7087	4164	1547	98.90	18.70	98.90	1547	4164	30- 40	1228	2409	24.9,24.9
50	5899	5298	1503	84.77	3.375	84.77	1503	5298	40- 50	1904	4313	44.5,44.5
60	4442	4061	1244	68.26	0.2296	68.26	1244	4061	50- 60	1882	6195	63.9,63.9
70	2971	3108	910.1	56.90	0.5369	56.90	910.1	3108	60- 70	1635	7831	80.8,80.8
80	1655	1697	420.4	38.28	1.181	38.28	420.4	1697	70- 80	1113	8944	92.3,92.3
90	341.8	419.2	73.91	16.67	2.086	16.67	73.91	419.2	80- 90	499.4	9443	97.4,97.4
100	175.7	147.5	14.50	7.292	3.103	7.292	14.50	147.5	90-100	113.0	9556	98.6,98.6
110	106.0	77.75	9.319	5.486	3.820	5.486	9.319	77.75	100-110	53.60	9610	99.1,99.1
120	64.04	52.65	8.021	5.295	4.220	5.295	8.021	52.65	110-120	30.56	9641	99.5,99.5
130	54.82	39.57	6.702	5.384	4.771	5.384	6.702	39.57	120-130	20.97	9661	99.7,99.7
140	39.87	30.99	5.118	5.024	4.642	5.024	5.118	30.99	130-140	14.20	9676	99.8,99.8
150	32.01	23.68	4.149	4.138	4.238	4.138	4.149	23.68	140-150	9.285	9685	99.9,99.9
160	23.13	17.60	3.800	3.494	3.177	3.494	3.800	17.60	150-160	5.401	9690	100,100
170	12.95	12.48	3.548	3.214	2.164	3.214	3.548	12.48	160-170	2.423	9693	100,100
180	1.826	2.026	2.213	2.246	1.809	2.246	2.213	2.026	170-180	0.4736	9693	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

	Zonal (lm)		Total (lm)	Percent
0-10	110.46	0-10	110.46	1.14%
10-20	336.28	0-20	446.74	4.61%
20-30	734.09	0-30	1180.83	12.18%
30-40	1228.10	0-40	2408.93	24.85%
40-50	1904.00	0-50	4312.93	44.50%
50-60	1882.44	0-60	6195.37	63.92%
60-70	1635.32	0-70	7830.69	80.79%
70-80	1113.28	0-80	8943.97	92.27%
80-90	499.36	0-90	9443.33	97.43%
90-100	113.03	0-100	9556.36	98.59%
100-110	53.60	0-110	9609.96	99.15%
110-120	30.56	0-120	9640.52	99.46%
120-130	20.97	0-130	9661.49	99.68%
130-140	14.20	0-140	9675.69	99.82%
140-150	9.28	0-150	9684.97	99.92%
150-160	5.40	0-160	9690.37	99.98%
160-170	2.42	0-170	9692.79	100.00%
170-180	0.47	0-180	9693.26	100.00%

4.2 Goniophotometer Test

LCS/BUG

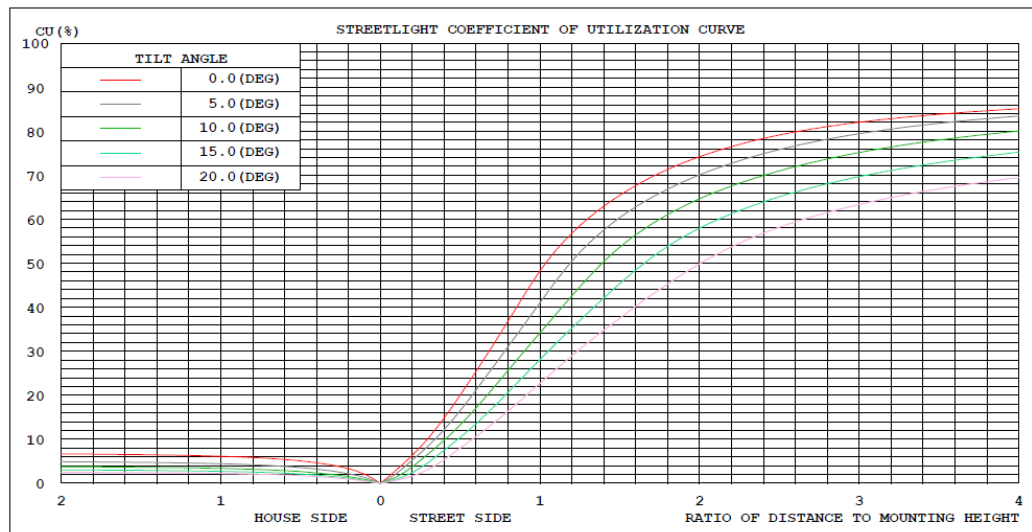


LUMINAIRE CLASSIFICATION SYSTEM (LCS)

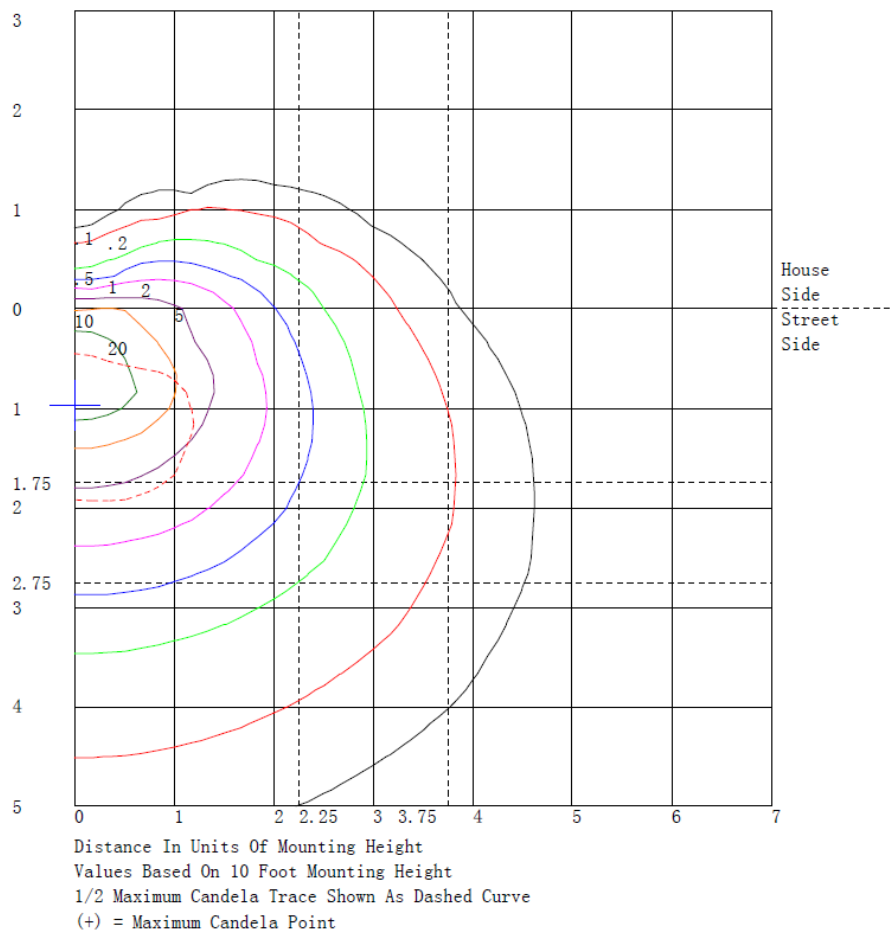
	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	1033.1	N.A.	10.7
FM - Front-Medium (30-60)	4697.2	N.A.	48.5
FH - Front-High (60-80)	2564.8	N.A.	26.5
FVH - Front-Very High (80-90)	466.0	N.A.	4.8
BL - Back-Low (0-30)	147.7	N.A.	1.5
BM - Back-Medium (30-60)	317.3	N.A.	3.3
BH - Back-High (60-80)	183.8	N.A.	1.9
BVH - Back-Very High (80-90)	33.3	N.A.	0.3
UL - Uplight-Low (90-100)	113.0	N.A.	1.2
UH - Uplight-High (100-180)	136.9	N.A.	1.4
Total	9693.1	N.A.	100.0
BUG Rating	B1-U3-G3		

4.2 Goniophotometer Test

Coefficients of Utilization



Isolines



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	913	928	936	942	946	943	940	928	920	911	899	893	913	893	899	911	920	928	940
5	1662	1712	1891	2115	1959	1644	965	809	880	827	740	677	671	677	740	827	880	809	965
10	1740	1736	1668	1535	1617	1905	1013	799	644	419	278	215	222	215	278	419	644	799	1013
15	2430	2388	2155	1910	1717	1737	1117	690	387	196	127	101	95.8	101	127	196	387	690	1117
20	3411	3297	2828	2305	1992	1646	1208	591	265	132	87.5	66.9	63.6	66.9	87.5	132	265	591	1208
25	4336	4187	3573	2846	2191	1755	1287	524	227	118	71.5	52.2	50.1	52.2	71.5	118	227	524	1287
30	4762	4601	4079	3287	2512	1815	1372	499	221	111	63.7	45.5	42.8	45.5	63.7	111	221	499	1372
35	5287	5167	4510	3640	2690	1800	1467	513	229	103	58.8	36.6	30.2	36.6	58.8	103	229	513	1467
40	7087	6555	5381	4164	2947	1791	1547	502	250	98.9	53.2	26.0	18.7	26.0	53.2	98.9	250	502	1547
45	8253	7789	6644	4803	3190	1854	1580	504	255	94.1	48.3	18.9	9.87	18.9	48.3	94.1	255	504	1580
50	5899	5966	5980	5298	3521	1951	1503	532	242	84.8	45.0	14.1	3.38	14.1	45.0	84.8	242	532	1503
55	4937	5038	5058	4673	3580	1991	1377	516	243	75.4	44.0	13.2	0.24	13.2	44.0	75.4	243	516	1377
60	4442	4529	4403	4061	3338	2000	1244	507	219	68.3	44.6	15.2	0.23	15.2	44.6	68.3	219	507	1244
65	3703	3855	3923	3615	2915	1782	1091	460	193	64.7	46.3	16.5	0.34	16.5	46.3	64.7	193	460	1091
70	2971	3114	3237	3108	2481	1558	910	387	166	56.9	45.5	16.5	0.54	16.5	45.5	56.9	166	387	910
75	2223	2258	2320	2404	2021	1301	664	298	123	48.0	38.3	14.6	0.81	14.6	38.3	48.0	123	298	664
80	1655	1670	1677	1697	1464	901	420	212	91.9	38.3	31.7	11.7	1.18	11.7	31.7	38.3	91.9	212	420
85	1039	1039	1050	1048	901	521	229	123	61.1	26.4	22.3	8.35	1.60	8.35	22.3	26.4	61.1	123	229
90	342	356	379	419	388	198	73.9	62.7	33.9	16.7	13.3	5.58	2.09	5.58	13.3	16.7	33.9	62.7	73.9
95	228	230	227	225	191	79.5	21.9	28.9	18.4	10.0	7.59	3.95	2.58	3.95	7.59	10.0	18.4	28.9	21.9
100	176	174	163	148	121	49.7	14.5	18.4	12.4	7.29	5.66	3.43	3.10	3.43	5.66	7.29	12.4	18.4	14.5
105	131	130	120	106	83.0	37.5	11.0	13.5	9.33	6.06	4.90	3.36	3.56	3.36	4.90	6.06	9.33	13.5	11.0
110	106	104	92.7	77.8	60.3	29.6	9.32	10.8	7.60	5.49	4.65	3.55	3.82	3.55	4.65	5.49	7.60	10.8	9.32
115	81.6	76.8	68.4	60.8	47.8	25.1	8.54	9.12	6.67	5.31	4.69	3.88	4.05	3.88	4.69	5.31	6.67	9.12	8.54
120	64.0	63.0	58.3	52.6	40.6	22.2	8.02	8.04	6.24	5.30	4.90	4.28	4.22	4.28	4.90	5.30	6.24	8.04	8.02
125	57.3	57.7	54.1	46.7	34.7	19.7	7.41	7.22	6.04	5.37	5.13	4.64	4.54	4.64	5.13	5.37	6.04	7.22	7.41
130	54.8	53.4	47.2	39.6	29.7	17.7	6.70	6.50	5.83	5.38	5.22	4.81	4.77	4.81	5.22	5.38	5.83	6.50	6.70
135	43.7	43.1	39.7	34.9	25.8	15.7	5.89	5.87	5.57	5.31	5.13	4.78	4.72	4.78	5.13	5.31	5.57	5.87	5.89
140	39.9	39.1	36.2	31.0	22.8	14.2	5.12	5.26	5.14	5.02	4.86	4.53	4.64	4.53	4.86	5.02	5.14	5.26	5.12
145	37.2	36.3	32.8	27.2	20.1	13.1	4.54	4.70	4.66	4.57	4.44	4.14	4.48	4.14	4.44	4.57	4.66	4.70	4.54
150	32.0	31.3	28.4	23.7	17.8	12.5	4.15	4.26	4.23	4.14	3.99	3.78	4.24	3.78	3.99	4.14	4.23	4.26	4.15
155	27.8	27.3	24.8	20.6	15.8	12.1	3.97	4.06	3.97	3.83	3.59	3.24	3.80	3.24	3.59	3.83	3.97	4.06	3.97
160	23.1	22.9	20.9	17.6	14.1	11.9	3.80	3.86	3.70	3.49	3.18	2.54	3.18	2.54	3.18	3.49	3.70	3.86	3.80
165	17.8	17.6	16.7	14.7	12.8	8.84	3.65	3.67	3.54	3.33	3.11	2.33	2.58	2.33	3.11	3.33	3.54	3.67	3.65
170	12.9	12.9	12.7	12.5	11.9	3.51	3.55	3.50	3.38	3.21	2.42	2.20	2.16	2.20	2.42	3.21	3.38	3.50	3.55
175	7.69	7.72	7.74	5.10	2.39	2.61	2.77	2.77	2.69	2.59	2.48	2.38	2.06	2.38	2.48	2.59	2.69	2.77	2.77
180	1.83	1.79	1.88	2.03	2.16	2.16	2.21	2.23	2.26	2.25	2.26	2.26	1.81	2.26	2.26	2.25	2.26	2.23	2.21

Table--2

UNIT: cd

C (DEG) y (DEG)	285	300	315	330	345														
0	943	946	942	936	928														
5	1644	1959	2115	1891	1712														
10	1905	1617	1535	1668	1736														
15	1737	1717	1910	2155	2388														
20	1646	1992	2305	2828	3297														
25	1755	2191	2846	3573	4187														
30	1815	2512	3287	4079	4601														
35	1800	2690	3640	4510	5167														
40	1791	2947	4164	5381	6555														
45	1854	3190	4803	6644	7789														
50	1951	3521	5298	5980	5966														
55	1991	3580	4673	5058	5038														
60	2000	3338	4061	4403	4529														
65	1782	2915	3615	3923	3855														
70	1558	2481	3108	3237	3114														
75	1301	2021	2404	2320	2258														
80	901	1464	1697	1677	1670														
85	521	901	1048	1050	1039														
90	198	388	419	379	356														
95	79.5	191	225	227	230														
100	49.7	121	148	163	174														
105	37.5	83.0	106	120	130														
110	29.6	60.3	77.8	92.7	104														
115	25.1	47.8	60.8	68.4	76.8														
120	22.2	40.6	52.6	58.3	63.0														
125	19.7	34.7	46.7	54.1	57.7														
130	17.7	29.7	39.6	47.2	53.4														
135	15.7	25.8	34.9	39.7	43.1														
140	14.2	22.8	31.0	36.2	39.1														
145	13.1	20.1	27.2	32.8	36.3														
150	12.5	17.8	23.7	28.4	31.3														
155	12.1	15.8	20.6	24.8	27.3														
160	11.9	14.1	17.6	20.9	22.9														
165	8.84	12.8	14.7	16.7	17.6														
170	3.51	11.9	12.5	12.7	12.9														
175	2.61	2.39	5.10	7.74	7.72														
180	2.16	2.16	2.03	1.88	1.79														

4.0 LM-79 Measurement and Test Results

4.3 THD and PF Test

Model No.	PWLED @72W5000K	Sample ID	241009001-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	0.577	68.7	0.993	9.65
277.0	60	0.253	68.2	0.974	9.50

5.0 Equipment List:

Equipment ID	Equipment Name	Last Cal.	Due Cal.
NTC-F01-001	Goniophotometer System	2023-11-08	2024-11-07
NTC-F01-006	2.0 meter Integrating Sphere	2023-11-08	2024-11-07
NTC-F01-012	Standard Lamp	2023-11-02	2024-11-01
NTC-F01-013	Standard Lamp	2023-11-02	2024-11-01
NTC-F01-031	Digital Power Meter	2024-08-06	2025-08-05
NTC-F01-019	Temperature & Humidity Meter	2023-11-06	2024-11-05

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