

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		5725
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2) (0°-180° zones)	ANSI/IES LM-79:2019	N/A		143.9
Luminaire Output (lm) (Goniophotometer – Section 4.2) (0°-90° zones)	ANSI/IES LM-79:2019	300		5598
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2) (0°-90° zones)	ANSI/IES LM-79:2019	Standard	Premium	140.7
		105	120	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		39.8
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	480V	14.91
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	480V	0.824
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	5029±283	5159
		4 steps	5029±220	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥70		82.3
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79-2019 CIE13.3-1995	N/A		9
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%		5.2%
Input Voltage (V)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Cast		480.0
(Goniophotometer – Section 4.2)		Non-Worst Case		N/A
Input Current (A)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		0.101
(Goniophotometer – Section 4.2)		Non-Worst Case		N/A
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		39.8
(Goniophotometer – Section 4.2)		Non-Worst Case		N/A

2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2024-10-09	PWLED/480 @41W5000K	-	241009002-S1
2	Goniophotometer Test	2024-10-09	PWLED/480 @41W5000K	-	241009002-S1
3	THD and PF Test	2024-10-09	PWLED/480 @41W5000K	-	241009002-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/480 @41W5000K, color tunable from 3000K, 4000K and 5000K.

Electrical Specification: 480Vac, 50/60Hz

Photos of Luminaire Characteristics



4.0 LM-79 Measurement and Test Results

4.1 Integrating Sphere Test

Model No.	PWLED/480 @41W5000K	Sample ID	241009002-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

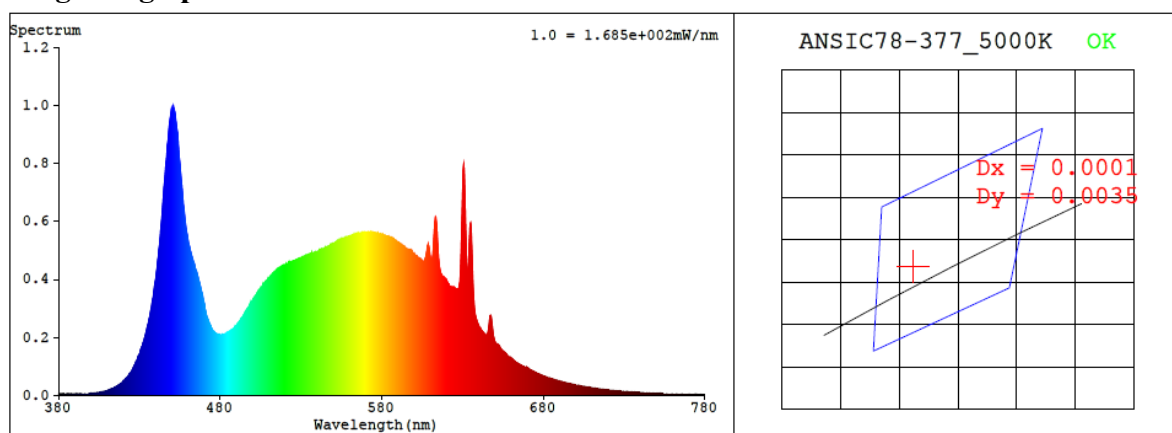
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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
480.0	60	0.101	39.8	0.824

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
5159	82.3	9	0.0017	83	96	-13%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3409$ $y = 0.3516$ / $u' = 0.2086$ $v' = 0.4841$ ($duv = 1.72e-03$)

CCT= 5159K Prcp WL: $L_d = 568.1\text{nm}$ Purity=7.8%

Peak WL: $L_p = 451\text{nm}$ FWHM: $= 19.7\text{nm}$ Ratio: R=15.4% G=80.1% B=4.5%

Render Index: $R_a = 82.3$ AvgR = 75.3 TM30: $R_f = 82$ $R_g = 96$

EEL: 0.00000 A++ Highest

R1 =80 R2 =87 R3 =91 R4 =82 R5 =81 R6 =82 R7 =87

R8 =68 R9 =9 R10=68 R11=81 R12=60 R13=82 R14=95 R15=76

4.1 Integrating Sphere Test

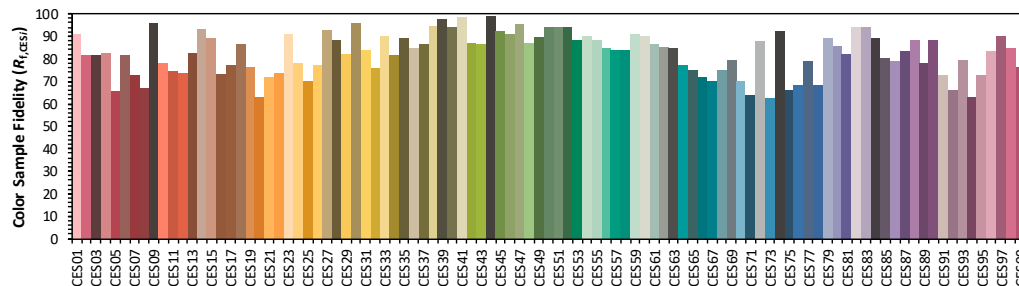
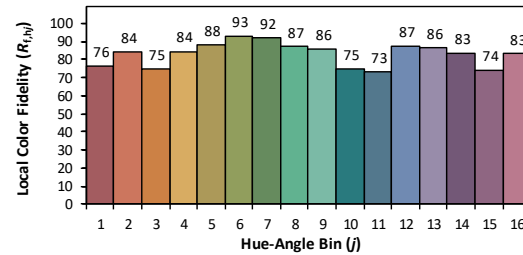
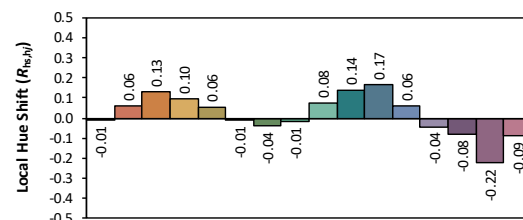
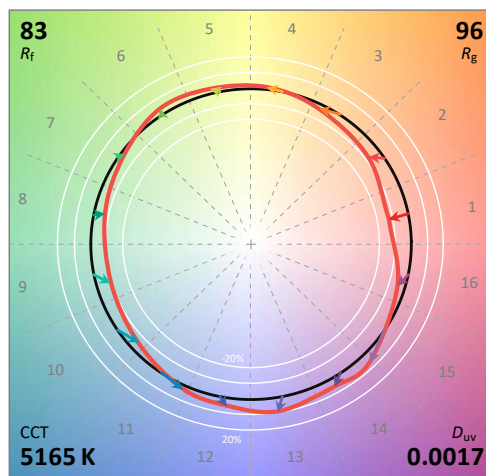
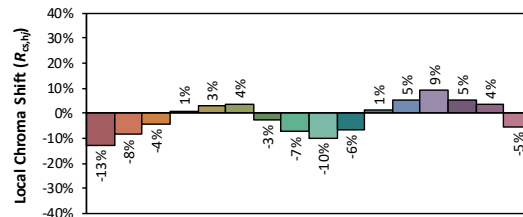
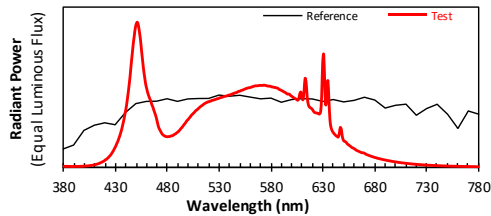
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2024/10/10

Model: PWLED/480 @41W5000K



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

x 0.3409
 y 0.3515
 u' 0.2086
 v' 0.4840

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	5.70E-06	447	8.48E-04	514	4.26E-04	581	5.52E-04	648	2.59E-04	715	2.27E-05
381	5.90E-06	448	9.03E-04	515	4.33E-04	582	5.52E-04	649	2.10E-04	716	2.18E-05
382	3.50E-06	449	9.58E-04	516	4.37E-04	583	5.49E-04	650	1.85E-04	717	2.13E-05
383	6.20E-06	450	9.87E-04	517	4.42E-04	584	5.49E-04	651	1.78E-04	718	2.06E-05
384	4.80E-06	451	9.97E-04	518	4.45E-04	585	5.46E-04	652	1.75E-04	719	1.99E-05
385	4.70E-06	452	9.74E-04	519	4.49E-04	586	5.45E-04	653	1.68E-04	720	1.95E-05
386	5.00E-06	453	9.29E-04	520	4.50E-04	587	5.41E-04	654	1.58E-04	721	1.87E-05
387	4.60E-06	454	8.75E-04	521	4.54E-04	588	5.34E-04	655	1.53E-04	722	1.81E-05
388	3.60E-06	455	8.03E-04	522	4.55E-04	589	5.32E-04	656	1.48E-04	723	1.75E-05
389	4.60E-06	456	7.37E-04	523	4.59E-04	590	5.28E-04	657	1.42E-04	724	1.71E-05
390	4.10E-06	457	6.72E-04	524	4.61E-04	591	5.25E-04	658	1.36E-04	725	1.65E-05
391	5.30E-06	458	6.21E-04	525	4.63E-04	592	5.21E-04	659	1.32E-04	726	1.60E-05
392	4.70E-06	459	5.72E-04	526	4.65E-04	593	5.17E-04	660	1.29E-04	727	1.56E-05
393	5.00E-06	460	5.41E-04	527	4.67E-04	594	5.13E-04	661	1.24E-04	728	1.50E-05
394	4.80E-06	461	5.12E-04	528	4.71E-04	595	5.07E-04	662	1.19E-04	729	1.45E-05
395	4.70E-06	462	4.89E-04	529	4.71E-04	596	5.03E-04	663	1.14E-04	730	1.40E-05
396	5.40E-06	463	4.71E-04	530	4.75E-04	597	5.03E-04	664	1.11E-04	731	1.37E-05
397	5.90E-06	464	4.53E-04	531	4.78E-04	598	5.01E-04	665	1.08E-04	732	1.33E-05
398	5.80E-06	465	4.29E-04	532	4.79E-04	599	4.93E-04	666	1.05E-04	733	1.28E-05
399	6.00E-06	466	4.13E-04	533	4.82E-04	600	4.89E-04	667	1.01E-04	734	1.25E-05
400	7.50E-06	467	3.90E-04	534	4.85E-04	601	4.82E-04	668	9.89E-05	735	1.19E-05
401	7.50E-06	468	3.69E-04	535	4.86E-04	602	4.78E-04	669	9.82E-05	736	1.17E-05
402	8.40E-06	469	3.47E-04	536	4.88E-04	603	4.73E-04	670	9.66E-05	737	1.13E-05
403	8.20E-06	470	3.19E-04	537	4.89E-04	604	4.70E-04	671	9.25E-05	738	1.09E-05
404	9.50E-06	471	2.87E-04	538	4.92E-04	605	4.65E-04	672	8.77E-05	739	1.06E-05
405	1.04E-05	472	2.66E-04	539	4.95E-04	606	4.60E-04	673	8.50E-05	740	1.04E-05
406	1.14E-05	473	2.52E-04	540	4.96E-04	607	4.73E-04	674	8.23E-05	741	1.01E-05
407	1.18E-05	474	2.40E-04	541	4.99E-04	608	5.08E-04	675	7.94E-05	742	9.60E-06
408	1.33E-05	475	2.27E-04	542	5.02E-04	609	5.16E-04	676	7.68E-05	743	9.30E-06
409	1.48E-05	476	2.21E-04	543	5.05E-04	610	4.79E-04	677	7.41E-05	744	9.20E-06
410	1.62E-05	477	2.15E-04	544	5.06E-04	611	4.65E-04	678	7.21E-05	745	8.80E-06
411	1.84E-05	478	2.12E-04	545	5.11E-04	612	5.23E-04	679	6.95E-05	746	8.50E-06
412	2.04E-05	479	2.10E-04	546	5.12E-04	613	6.10E-04	680	6.69E-05	747	8.30E-06
413	2.29E-05	480	2.09E-04	547	5.15E-04	614	5.82E-04	681	6.53E-05	748	8.10E-06
414	2.51E-05	481	2.10E-04	548	5.18E-04	615	4.86E-04	682	6.30E-05	749	7.60E-06
415	2.86E-05	482	2.11E-04	549	5.22E-04	616	4.35E-04	683	6.07E-05	750	7.50E-06
416	3.19E-05	483	2.12E-04	550	5.23E-04	617	4.16E-04	684	5.95E-05	751	7.20E-06
417	3.53E-05	484	2.16E-04	551	5.27E-04	618	4.09E-04	685	5.75E-05	752	7.10E-06
418	3.94E-05	485	2.17E-04	552	5.29E-04	619	4.04E-04	686	5.58E-05	753	6.90E-06
419	4.29E-05	486	2.21E-04	553	5.31E-04	620	3.97E-04	687	5.42E-05	754	6.70E-06
420	4.96E-05	487	2.26E-04	554	5.35E-04	621	3.86E-04	688	5.23E-05	755	6.40E-06
421	5.31E-05	488	2.30E-04	555	5.38E-04	622	3.77E-04	689	5.05E-05	756	6.30E-06
422	6.00E-05	489	2.36E-04	556	5.41E-04	623	3.74E-04	690	4.95E-05	757	5.90E-06
423	6.59E-05	490	2.41E-04	557	5.43E-04	624	3.73E-04	691	4.80E-05	758	6.00E-06
424	7.46E-05	491	2.48E-04	558	5.46E-04	625	3.71E-04	692	4.63E-05	759	6.00E-06
425	8.19E-05	492	2.56E-04	559	5.47E-04	626	3.67E-04	693	4.52E-05	760	5.40E-06
426	9.20E-05	493	2.65E-04	560	5.48E-04	627	3.66E-04	694	4.37E-05	761	5.40E-06
427	1.03E-04	494	2.73E-04	561	5.51E-04	628	3.81E-04	695	4.22E-05	762	5.20E-06
428	1.15E-04	495	2.82E-04	562	5.53E-04	629	4.87E-04	696	4.12E-05	763	5.00E-06
429	1.30E-04	496	2.92E-04	563	5.55E-04	630	7.19E-04	697	3.96E-05	764	5.00E-06
430	1.42E-04	497	3.00E-04	564	5.58E-04	631	7.76E-04	698	3.85E-05	765	4.80E-06
431	1.61E-04	498	3.11E-04	565	5.60E-04	632	5.68E-04	699	3.75E-05	766	4.60E-06
432	1.75E-04	499	3.21E-04	566	5.60E-04	633	4.27E-04	700	3.59E-05	767	4.40E-06
433	1.96E-04	500	3.27E-04	567	5.60E-04	634	5.11E-04	701	3.54E-05	768	4.40E-06
434	2.16E-04	501	3.37E-04	568	5.61E-04	635	5.96E-04	702	3.40E-05	769	4.30E-06
435	2.39E-04	502	3.45E-04	569	5.63E-04	636	4.65E-04	703	3.28E-05	770	4.20E-06
436	2.65E-04	503	3.55E-04	570	5.62E-04	637	3.27E-04	704	3.17E-05	771	3.90E-06
437	2.95E-04	504	3.63E-04	571	5.62E-04	638	2.75E-04	705	3.10E-05	772	3.90E-06
438	3.28E-04	505	3.70E-04	572	5.62E-04	639	2.53E-04	706	2.99E-05	773	3.70E-06
439	3.66E-04	506	3.77E-04	573	5.64E-04	640	2.40E-04	707	2.91E-05	774	3.60E-06
440	4.02E-04	507	3.85E-04	574	5.64E-04	641	2.30E-04	708	2.85E-05	775	3.40E-06
441	4.51E-04	508	3.92E-04	575	5.62E-04	642	2.22E-04	709	2.73E-05	776	3.50E-06
442	5.05E-04	509	3.97E-04	576	5.59E-04	643	2.16E-04	710	2.63E-05	777	3.30E-06
443	5.64E-04	510	4.04E-04	577	5.58E-04	644	2.11E-04	711	2.57E-05	778	3.00E-06
444	6.29E-04	511	4.10E-04	578	5.57E-04	645	2.07E-04	712	2.50E-05	779	2.90E-06
445	7.07E-04	512	4.17E-04	579	5.57E-04	646	2.29E-04	713	2.42E-05	780	2.90E-06
446	7.77E-04	513	4.22E-04	580	5.55E-04	647	2.73E-04	714	2.34E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	PWLED/480 @41W5000K	Sample ID	241009002-S1
Operate time (Min.)	30	Stabilization time (Min.)	60
Temperature (°C)	25.0	Humidity (%RH)	43.1

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	480.0	60	0.101	39.8	0.824
NON-WORST CASE	N/A	N/A	N/A	N/A	N/A

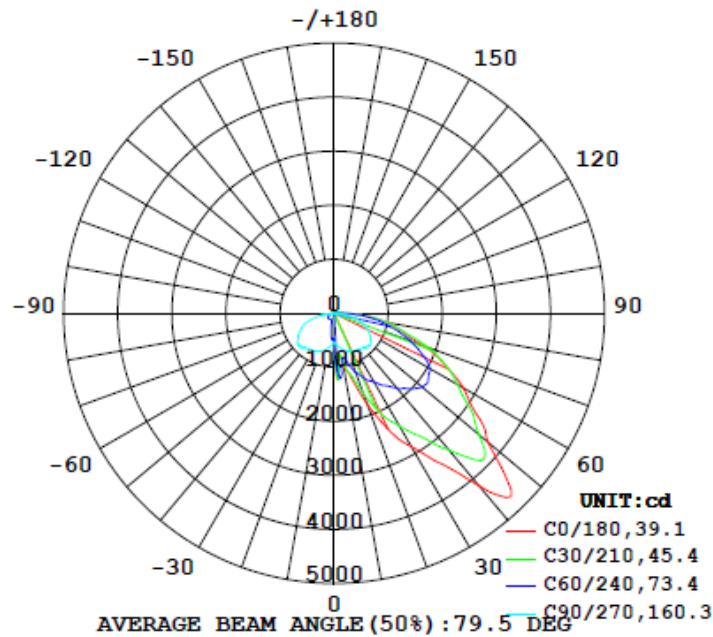
Test Result

Result Type	Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement	BUG
		C0-180	C90-270	C0-180	C90-270		(80°-90°)	
0°-180° zones	5725	89.7	151.7	40.2	86.8	143.9	5.1%	B1-U3-G3
0°-90° zones	5598	89.7	151.7	40.2	86.8	140.7	5.2%	B1-U3-G3

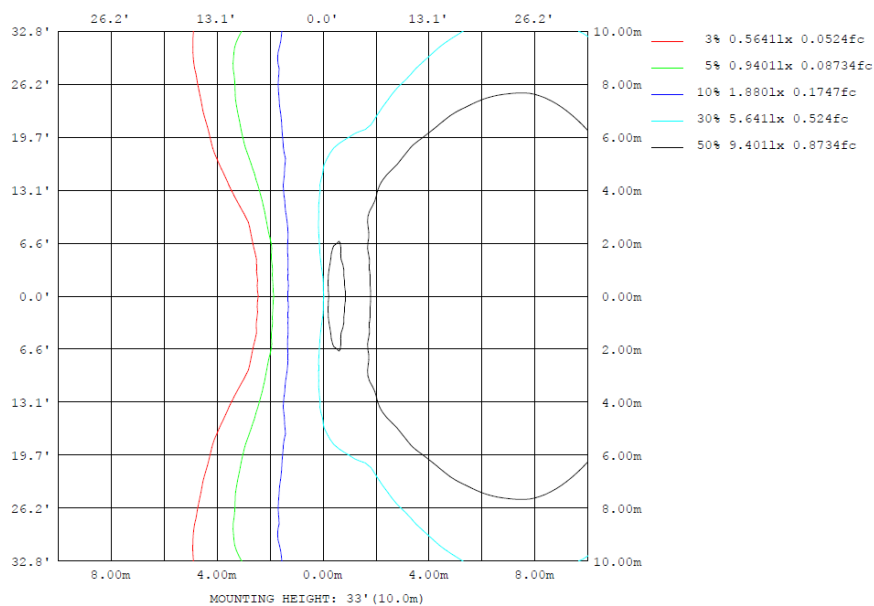
4.2 Goniophotometer Test

Lighting Distribution Curve

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



Isolux Plot



4.2 Goniophotometer Test

Zonal Lumen Summary

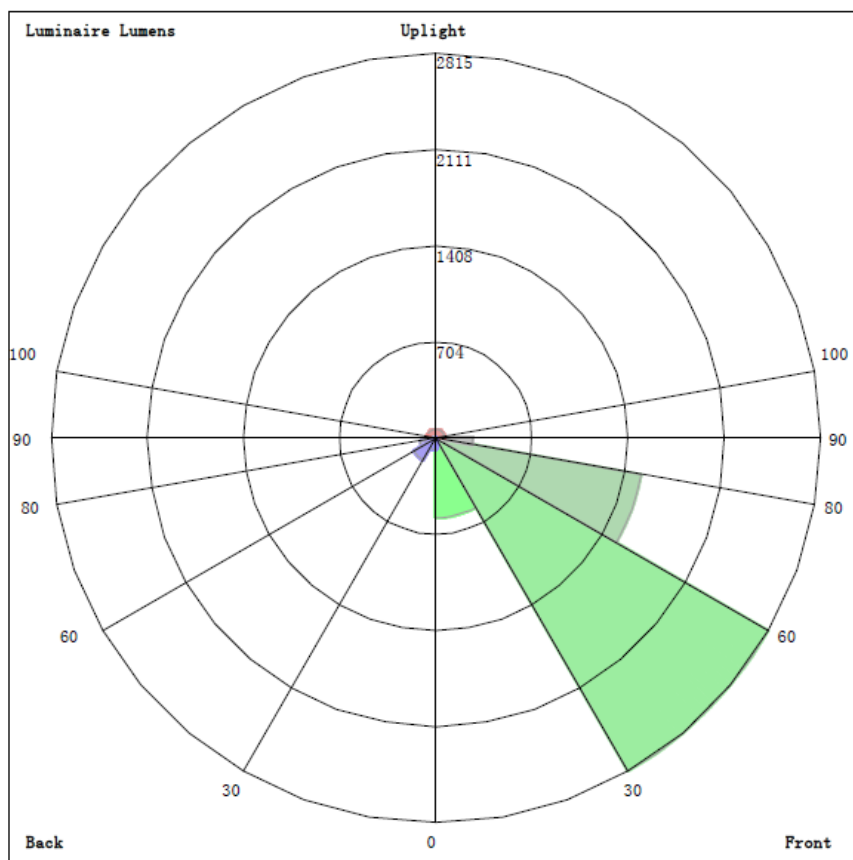
ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	± zone	± total	±lum, lamp
10	977.4	809.1	649.2	211.8	108.0	211.8	649.2	809.1	0- 10	61.81	61.81	1.08,1.08
20	1797	1345	743.7	74.25	34.89	74.25	743.7	1345	10- 20	184.8	246.6	4.31,4.31
30	2848	1982	793.1	62.53	25.01	62.53	793.1	1982	20- 30	420.4	667.0	11.7,11.7
40	4170	2594	847.5	58.91	11.08	58.91	847.5	2594	30- 40	736.4	1403	24.5,24.5
50	3716	3104	879.4	53.97	2.583	53.97	879.4	3104	40- 50	1118	2522	44,44
60	2755	2479	744.2	46.02	0.1207	46.02	744.2	2479	50- 60	1146	3667	64.1,64.1
70	1743	1817	582.2	38.80	0.2907	38.80	582.2	1817	60- 70	982.0	4649	81.2,81.2
80	1003	1003	273.2	25.87	0.6760	25.87	273.2	1003	70- 80	659.3	5309	92.7,92.7
90	179.9	227.7	34.30	10.29	1.233	10.29	34.30	227.7	80- 90	289.7	5598	97.8,97.8
100	91.53	75.93	7.338	4.030	1.873	4.030	7.338	75.93	90-100	62.07	5661	98.9,98.9
110	51.14	35.30	4.621	3.035	2.314	3.035	4.621	35.30	100-110	26.79	5687	99.3,99.3
120	26.20	22.29	3.862	3.004	2.529	3.004	3.862	22.29	110-120	13.86	5701	99.6,99.6
130	20.43	17.05	3.312	3.065	2.842	3.065	3.312	17.05	120-130	9.068	5710	99.7,99.7
140	17.00	13.51	2.624	2.842	2.732	2.842	2.624	13.51	130-140	6.430	5717	99.9,99.9
150	13.36	10.71	2.200	2.313	2.468	2.313	2.200	10.71	140-150	4.292	5721	99.9,99.9
160	9.483	8.367	2.088	1.966	1.849	1.966	2.088	8.367	150-160	2.578	5724	100,100
170	6.769	7.223	1.941	1.788	1.241	1.788	1.941	7.223	160-170	1.231	5725	100,100
180	1.034	1.155	1.265	1.268	1.025	1.268	1.265	1.155	170-180	0.2702	5725	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Zonal (lm)		Total (lm)		Percent
0-10	61.81	0-10	61.81	1.08%
10-20	184.82	0-20	246.63	4.31%
20-30	420.40	0-30	667.03	11.65%
30-40	736.36	0-40	1403.39	24.51%
40-50	1118.28	0-50	2521.67	44.05%
50-60	1145.79	0-60	3667.46	64.06%
60-70	982.00	0-70	4649.46	81.22%
70-80	659.33	0-80	5308.79	92.73%
80-90	289.67	0-90	5598.46	97.79%
90-100	62.07	0-100	5660.53	98.88%
100-110	26.79	0-110	5687.32	99.35%
110-120	13.86	0-120	5701.18	99.59%
120-130	9.07	0-130	5710.25	99.75%
130-140	6.43	0-140	5716.68	99.86%
140-150	4.29	0-150	5720.97	99.93%
150-160	2.58	0-160	5723.55	99.98%
160-170	1.23	0-170	5724.78	100.00%
170-180	0.27	0-180	5725.05	100.00%

4.2 Goniophotometer Test

LCS/BUG

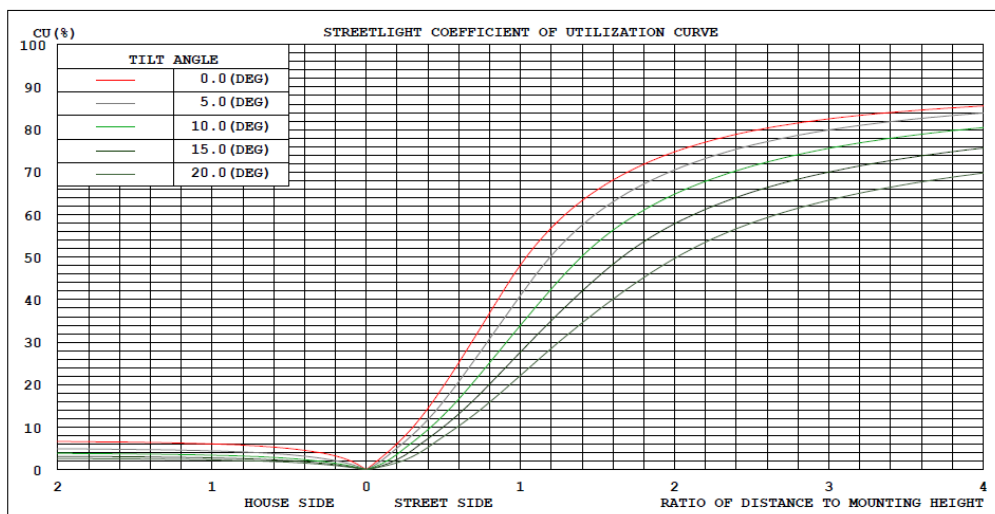


LUMINAIRE CLASSIFICATION SYSTEM (LCS)

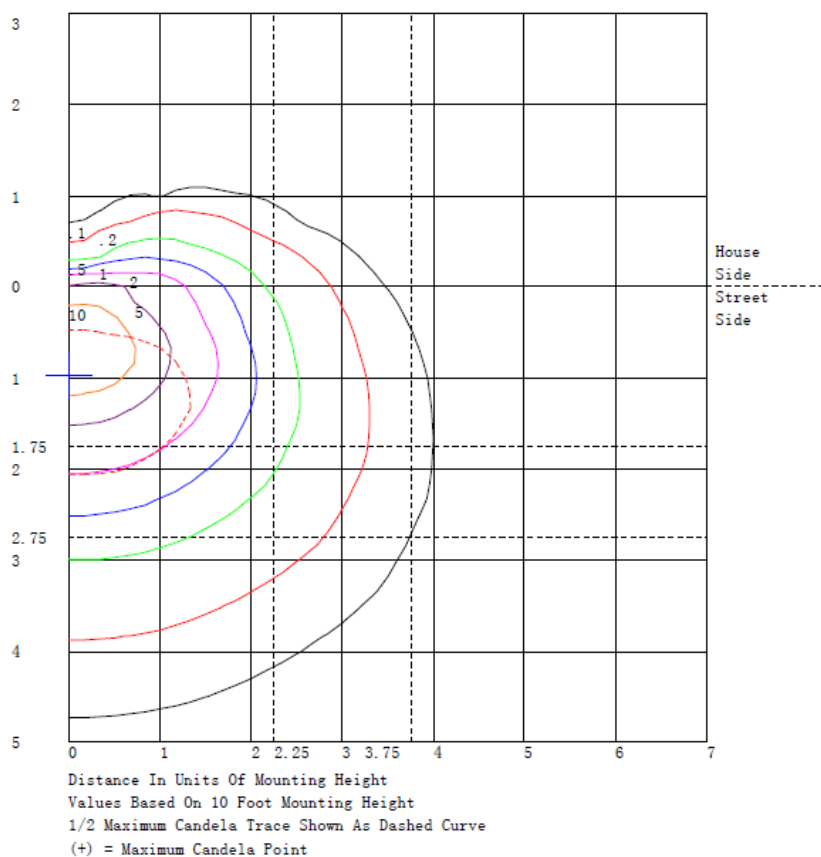
	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	583.9	N.A.	10.2
FM - Front-Medium (30-60)	2815.0	N.A.	49.2
FH - Front-High (60-80)	1527.5	N.A.	26.7
FVH - Front-Very High (80-90)	269.4	N.A.	4.7
BL - Back-Low (0-30)	83.1	N.A.	1.5
BM - Back-Medium (30-60)	185.4	N.A.	3.2
BH - Back-High (60-80)	113.9	N.A.	2.0
BVH - Back-Very High (80-90)	20.2	N.A.	0.4
UL - Uplight-Low (90-100)	62.1	N.A.	1.1
UH - Uplight-High (100-180)	64.5	N.A.	1.1
Total	5725.0	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) γ (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	503	514	528	530	533	536	537	534	532	522	518	504	503	504	518	522	532	534	537
5	882	913	1002	1193	1190	1013	587	446	494	446	387	346	336	346	387	446	494	446	587
10	977	961	891	809	847	1108	649	440	333	212	145	117	108	117	145	212	333	440	649
15	1243	1236	1162	1116	923	901	711	376	199	106	71.1	57.0	53.0	57.0	71.1	106	199	376	711
20	1797	1775	1581	1345	1160	865	744	329	142	74.2	48.0	37.1	34.9	37.1	48.0	74.2	142	329	744
25	2370	2320	2042	1680	1339	967	759	289	131	65.7	40.2	29.4	28.3	29.4	40.2	65.7	131	289	759
30	2848	2726	2401	1982	1463	994	793	278	128	62.5	37.7	26.4	25.0	26.4	37.7	62.5	128	278	793
35	3373	3192	2783	2253	1630	969	807	276	136	60.5	36.6	22.4	17.7	22.4	36.6	60.5	136	276	807
40	4170	3867	3305	2594	1818	1000	847	294	141	58.9	35.2	16.6	11.1	16.6	35.2	58.9	141	294	847
45	4631	4400	3854	2928	1977	1005	859	316	150	57.4	34.1	13.2	6.25	13.2	34.1	57.4	150	316	859
50	3716	3637	3497	3104	2119	1140	879	310	146	54.0	33.8	11.4	2.58	11.4	33.8	54.0	146	310	879
55	3181	3152	3075	2831	2125	1247	813	302	144	49.6	35.4	11.0	0.39	11.0	35.4	49.6	144	302	813
60	2755	2762	2631	2479	2046	1200	744	293	132	46.0	36.8	12.5	0.12	12.5	36.8	46.0	132	293	744
65	2262	2305	2275	2166	1792	1097	670	263	117	42.9	39.0	13.7	0.18	13.7	39.0	42.9	117	263	670
70	1743	1817	1853	1817	1500	952	582	221	98.6	38.8	36.2	13.0	0.29	13.0	36.2	38.8	98.6	221	582
75	1302	1332	1343	1387	1183	804	436	165	72.5	34.2	32.4	11.1	0.46	11.1	32.4	34.2	72.5	165	436
80	1003	1014	1002	1003	860	529	273	118	54.1	25.9	24.8	8.73	0.68	8.73	24.8	25.9	54.1	118	273
85	563	567	581	612	549	313	137	70.3	36.2	17.2	16.6	5.99	0.94	5.99	16.6	17.2	36.2	70.3	137
90	180	183	198	228	222	121	34.3	36.3	19.4	10.3	9.68	3.87	1.23	3.87	9.68	10.3	19.4	36.3	34.3
95	123	121	121	123	110	48.3	11.5	15.3	10.5	5.65	5.06	2.41	1.54	2.41	5.06	5.65	10.5	15.3	11.5
100	91.5	88.6	82.4	75.9	63.5	29.2	7.34	9.32	6.66	4.03	3.59	1.99	1.87	1.99	3.59	4.03	6.66	9.32	7.34
105	66.5	64.7	58.6	50.9	41.6	20.0	5.53	6.52	4.91	3.31	2.98	1.90	2.16	1.90	2.98	3.31	4.91	6.52	5.53
110	51.1	49.2	42.5	35.3	28.0	15.0	4.62	5.04	3.94	3.04	2.76	1.99	2.31	1.99	2.76	3.04	3.94	5.04	4.62
115	34.0	33.4	30.2	26.7	21.5	12.4	4.16	4.18	3.51	2.97	2.76	2.18	2.44	2.18	2.76	2.97	3.51	4.18	4.16
120	26.2	26.3	24.6	22.3	17.7	10.8	3.86	3.76	3.32	3.00	2.88	2.43	2.53	2.43	2.88	3.00	3.32	3.76	3.86
125	22.8	23.0	21.4	19.3	15.2	9.62	3.63	3.56	3.22	3.06	3.01	2.66	2.71	2.66	3.01	3.06	3.22	3.56	3.63
130	20.4	20.6	18.9	17.0	13.2	8.80	3.31	3.23	3.14	3.06	3.05	2.78	2.84	2.78	3.05	3.06	3.14	3.23	3.31
135	18.4	18.6	17.1	15.1	11.8	8.16	2.97	2.98	3.03	3.02	3.00	2.78	2.80	2.78	3.00	3.02	3.03	2.98	2.97
140	17.0	16.8	15.5	13.5	10.6	7.62	2.62	2.72	2.84	2.84	2.81	2.63	2.73	2.63	2.81	2.84	2.84	2.72	2.62
145	15.0	15.0	13.9	12.1	9.63	7.30	2.37	2.50	2.55	2.58	2.54	2.39	2.62	2.39	2.54	2.58	2.55	2.50	2.37
150	13.4	13.4	12.3	10.7	8.73	7.27	2.20	2.32	2.31	2.31	2.27	2.15	2.47	2.15	2.27	2.31	2.31	2.32	2.20
155	11.2	11.3	10.6	9.40	8.04	7.27	2.14	2.24	2.21	2.15	2.05	1.93	2.20	1.93	2.05	2.15	2.21	2.24	2.14
160	9.48	9.57	9.16	8.37	7.53	7.49	2.09	2.13	2.07	1.97	1.84	1.65	1.85	1.65	1.84	1.97	2.07	2.13	2.09
165	7.92	7.91	7.91	7.54	7.38	4.94	2.01	2.02	1.97	1.87	1.74	1.34	1.49	1.34	1.74	1.87	1.97	2.02	2.01
170	6.77	6.79	7.04	7.22	6.47	1.92	1.94	1.92	1.87	1.79	1.59	1.27	1.24	1.27	1.59	1.79	1.87	1.92	1.94
175	5.11	5.02	4.45	1.88	1.39	1.55	1.70	1.67	1.57	1.51	1.43	1.34	1.18	1.34	1.43	1.51	1.57	1.67	1.70
180	1.03	1.02	1.07	1.16	1.19	1.25	1.26	1.27	1.28	1.27	1.26	1.26	1.02	1.26	1.26	1.27	1.28	1.27	1.26

Table--2

UNIT: cd

C (DEG) γ (DEG)	285	300	315	330	345														
0	536	533	530	528	514														
5	1013	1190	1193	1002	913														
10	1108	847	809	891	961														
15	901	923	1116	1162	1236														
20	865	1160	1345	1581	1775														
25	967	1339	1680	2042	2320														
30	994	1463	1982	2401	2726														
35	969	1630	2253	2783	3192														
40	1000	1818	2594	3305	3867														
45	1005	1977	2928	3854	4400														
50	1140	2119	3104	3497	3637														
55	1247	2125	2831	3075	3152														
60	1200	2046	2479	2631	2762														
65	1097	1792	2166	2275	2305														
70	952	1500	1817	1853	1817														
75	804	1183	1387	1343	1332														
80	529	860	1003	1002	1014														
85	313	549	612	581	567														
90	121	222	228	198	183														
95	48.3	110	123	121	121														
100	29.2	63.5	75.9	82.4	88.6														
105	20.0	41.6	50.9	58.6	64.7														
110	15.0	28.0	35.3	42.5	49.2														
115	12.4	21.5	26.7	30.2	33.4														
120	10.8	17.7	22.3	24.6	26.3														
125	9.62	15.2	19.3	21.4	23.0														
130	8.80	13.2	17.0	18.9	20.6														
135	8.16	11.8	15.1	17.1	18.6														
140	7.62	10.6	13.5	15.5	16.8														
145	7.30	9.63	12.1	13.9	15.0														
150	7.27	8.73	10.7	12.3	13.4														
155	7.27	8.04	9.40	10.6	11.3														
160	7.49	7.53	8.37	9.16	9.57														
165	4.94	7.38	7.54	7.91	7.91														
170	1.92	6.47	7.22	7.04	6.79														
175	1.55	1.39	1.88	4.45	5.02														
180	1.25	1.19	1.16	1.07	1.02														

4.0 LM-79 Measurement and Test Results

4.3 THD and PF Test

Model No.	PWLED/480 @41W5000K	Sample ID	241009002-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(%)
480.0	60	0.101	39.8	0.824	14.91

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*****