

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		8874
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2) (0°-180° zones)	ANSI/IES LM-79:2019	N/A		125.3
Luminaire Output (lm) (Goniophotometer – Section 4.2) (0°-90° zones)	ANSI/IES LM-79:2019	300		8683
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2) (0°-90° zones)	ANSI/IES LM-79:2019	Standard	Premium	122.6
		105	120	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		70.8
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	480V	7.34
Power Factor (THD & PF – Section 4.3)	ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	480V	0.922
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019	7 steps	3045±175	3047
		4 steps	3045±100	
Minimum CRI (Integrating Sphere – Section 4.1)	ANSI/IES LM-79:2019 CIE13.3-1995	≥70		81.4
Minimum R9 (Integrating Sphere – Section 4.1)	ANSI/IES LM-79-2019 CIE13.3-1995	N/A		12
Minimum Rf (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥70		82
Minimum Rg (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	≥89		99
IES Rcs,h1 (Integrating Sphere – Section 4.1)	ANSI/IES TM-30-18	-18%≤IES Rcs,h1≤+23%		-11%
Zonal Lumen Requirement (80°-90°) (Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	≤10%		4.9%
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		0.160
(Goniophotometer – Section 4.2)		Non-Worst Case		N/A
Power (Input Wattage – W)				
(Goniophotometer – Section 4.2)	ANSI/IES LM-79:2019	Worst Case		70.8
(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 @72W3000K	-	241009002-S1
2	Goniophotometer Test	2024-10-09	PWLED/480 @72W3000K	-	241009002-S1
3	THD and PF Test	2024-10-09	PWLED/480 @72W3000K	-	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 @72W3000K, 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 @72W3000K	Sample ID	241009002-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

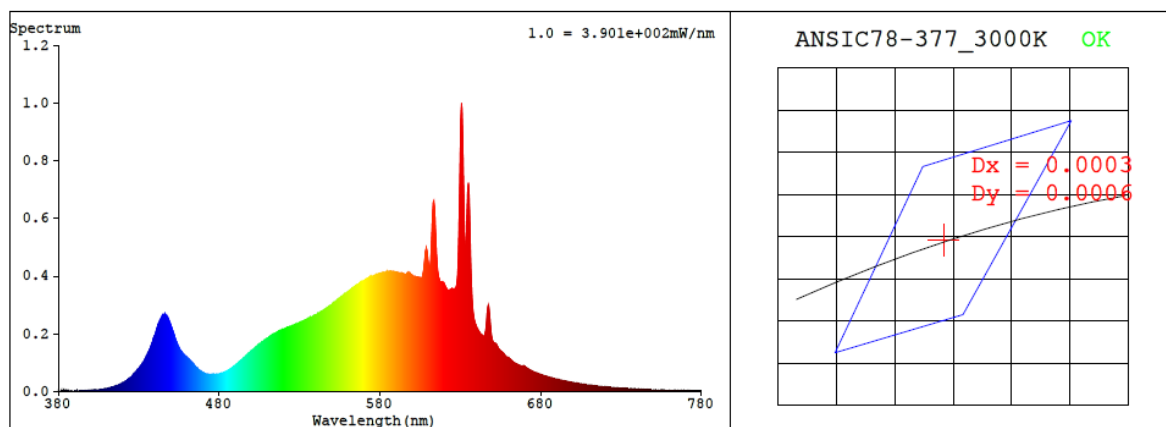
Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25±1°C.</p> <p>The sample measurements were made 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	0.160	70.8	0.922

CCT (K)	CRI	R9	Duv	Rf	Rg	IES Rcs,h1
3047	81.4	12	0.0002	82	99	-11%

4.1 Integrating Sphere Test



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4339$ $y = 0.4035$ / $u' = 0.2489$ $v' = 0.5207$ ($duv=1.86e-04$)

CCT= 3047K Prcp WL: $L_d=582.5nm$ Purity=51.3%

Peak WL: $L_p=631nm$ FWHM: $=7.6nm$ Ratio: $R=22.6\%$ $G=75.3\%$ $B=2.1\%$

Render Index: $R_a = 81.4$ $AvgR = 75.2$ $TM30:R_f=81$ $R_g=98$

EEL: 0.10798 A++ Highest

R1 =80 R2 =87 R3 =94 R4 =80 R5 =79 R6 =83 R7 =85

R8 =63 R9 =12 R10=70 R11=79 R12=66 R13=80 R14=96 R15=74

4.1 Integrating Sphere Test

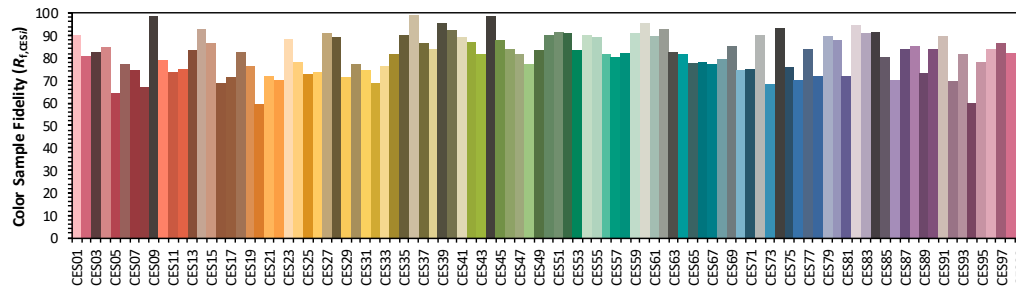
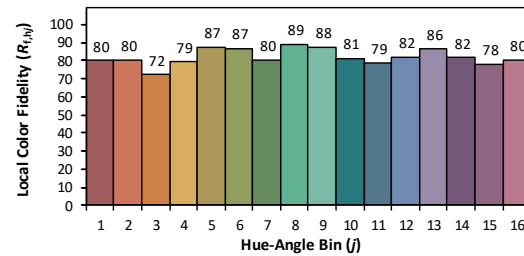
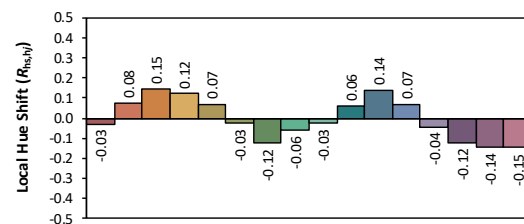
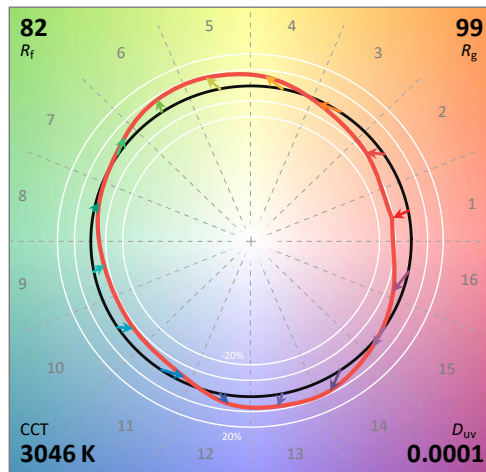
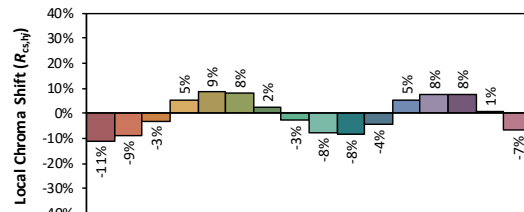
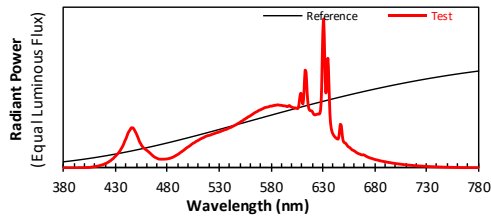
ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2024/10/10

Model: PWLED/480 @72W3000K



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

x 0.4339
 y 0.4033
 u' 0.2489
 v' 0.5206

CIE 13.3-1995
(CRI)
 R_a 81
 R_g 12

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	2.64E-04	514	1.99E-04	581	4.08E-04	648	2.78E-04	715	1.93E-05
381	0.00E+00	448	2.53E-04	515	2.02E-04	582	4.12E-04	649	2.12E-04	716	1.87E-05
382	2.80E-06	449	2.41E-04	516	2.06E-04	583	4.12E-04	650	1.77E-04	717	1.81E-05
383	2.40E-06	450	2.27E-04	517	2.09E-04	584	4.15E-04	651	1.68E-04	718	1.75E-05
384	1.20E-06	451	2.11E-04	518	2.12E-04	585	4.14E-04	652	1.65E-04	719	1.71E-05
385	1.00E-07	452	1.95E-04	519	2.14E-04	586	4.16E-04	653	1.57E-04	720	1.66E-05
386	3.10E-06	453	1.76E-04	520	2.16E-04	587	4.17E-04	654	1.47E-04	721	1.62E-05
387	7.00E-07	454	1.64E-04	521	2.17E-04	588	4.15E-04	655	1.40E-04	722	1.55E-05
388	2.20E-06	455	1.51E-04	522	2.19E-04	589	4.14E-04	656	1.36E-04	723	1.50E-05
389	1.10E-06	456	1.41E-04	523	2.23E-04	590	4.13E-04	657	1.30E-04	724	1.46E-05
390	1.90E-06	457	1.34E-04	524	2.25E-04	591	4.13E-04	658	1.23E-04	725	1.41E-05
391	1.40E-06	458	1.29E-04	525	2.27E-04	592	4.11E-04	659	1.19E-04	726	1.34E-05
392	1.40E-06	459	1.23E-04	526	2.30E-04	593	4.11E-04	660	1.16E-04	727	1.34E-05
393	1.90E-06	460	1.18E-04	527	2.32E-04	594	4.09E-04	661	1.12E-04	728	1.27E-05
394	2.20E-06	461	1.13E-04	528	2.35E-04	595	4.07E-04	662	1.06E-04	729	1.22E-05
395	3.10E-06	462	1.07E-04	529	2.36E-04	596	4.05E-04	663	1.02E-04	730	1.18E-05
396	3.00E-06	463	1.01E-04	530	2.39E-04	597	4.10E-04	664	9.78E-05	731	1.15E-05
397	2.90E-06	464	9.46E-05	531	2.41E-04	598	4.12E-04	665	9.49E-05	732	1.12E-05
398	3.20E-06	465	8.75E-05	532	2.44E-04	599	4.05E-04	666	9.25E-05	733	1.08E-05
399	4.00E-06	466	8.17E-05	533	2.46E-04	600	4.03E-04	667	8.91E-05	734	1.04E-05
400	3.60E-06	467	7.61E-05	534	2.49E-04	601	3.99E-04	668	8.76E-05	735	1.00E-05
401	3.40E-06	468	7.16E-05	535	2.52E-04	602	3.98E-04	669	8.81E-05	736	9.90E-06
402	5.10E-06	469	6.87E-05	536	2.54E-04	603	3.97E-04	670	8.71E-05	737	9.50E-06
403	4.50E-06	470	6.51E-05	537	2.56E-04	604	3.96E-04	671	8.28E-05	738	9.10E-06
404	4.90E-06	471	6.21E-05	538	2.59E-04	605	3.94E-04	672	7.87E-05	739	9.00E-06
405	5.20E-06	472	5.99E-05	539	2.63E-04	606	3.93E-04	673	7.54E-05	740	8.70E-06
406	6.30E-06	473	5.94E-05	540	2.65E-04	607	4.15E-04	674	7.18E-05	741	8.50E-06
407	7.30E-06	474	5.95E-05	541	2.68E-04	608	4.71E-04	675	6.97E-05	742	8.10E-06
408	8.00E-06	475	5.91E-05	542	2.71E-04	609	4.93E-04	676	6.66E-05	743	8.00E-06
409	9.70E-06	476	5.95E-05	543	2.75E-04	610	4.48E-04	677	6.49E-05	744	7.80E-06
410	9.70E-06	477	5.96E-05	544	2.78E-04	611	4.25E-04	678	6.32E-05	745	7.40E-06
411	1.19E-05	478	5.99E-05	545	2.82E-04	612	5.08E-04	679	6.04E-05	746	7.30E-06
412	1.27E-05	479	6.05E-05	546	2.85E-04	613	6.44E-04	680	5.86E-05	747	6.80E-06
413	1.44E-05	480	6.13E-05	547	2.89E-04	614	6.27E-04	681	5.62E-05	748	6.70E-06
414	1.60E-05	481	6.29E-05	548	2.94E-04	615	4.97E-04	682	5.50E-05	749	6.40E-06
415	1.79E-05	482	6.43E-05	549	2.98E-04	616	4.15E-04	683	5.37E-05	750	6.20E-06
416	2.06E-05	483	6.63E-05	550	3.01E-04	617	3.86E-04	684	5.15E-05	751	6.10E-06
417	2.15E-05	484	6.94E-05	551	3.07E-04	618	3.79E-04	685	4.98E-05	752	5.90E-06
418	2.41E-05	485	7.13E-05	552	3.10E-04	619	3.78E-04	686	4.80E-05	753	5.90E-06
419	2.67E-05	486	7.50E-05	553	3.15E-04	620	3.72E-04	687	4.69E-05	754	5.50E-06
420	3.03E-05	487	7.86E-05	554	3.20E-04	621	3.59E-04	688	4.52E-05	755	5.70E-06
421	3.20E-05	488	8.26E-05	555	3.23E-04	622	3.52E-04	689	4.39E-05	756	5.10E-06
422	3.66E-05	489	8.68E-05	556	3.29E-04	623	3.52E-04	690	4.29E-05	757	5.30E-06
423	4.01E-05	490	9.03E-05	557	3.32E-04	624	3.54E-04	691	4.18E-05	758	4.70E-06
424	4.52E-05	491	9.48E-05	558	3.38E-04	625	3.56E-04	692	3.99E-05	759	4.80E-06
425	4.92E-05	492	9.99E-05	559	3.40E-04	626	3.56E-04	693	3.88E-05	760	4.80E-06
426	5.49E-05	493	1.06E-04	560	3.45E-04	627	3.58E-04	694	3.76E-05	761	4.60E-06
427	6.04E-05	494	1.09E-04	561	3.50E-04	628	3.85E-04	695	3.68E-05	762	4.50E-06
428	6.58E-05	495	1.15E-04	562	3.54E-04	629	5.31E-04	696	3.55E-05	763	4.20E-06
429	7.43E-05	496	1.19E-04	563	3.59E-04	630	8.60E-04	697	3.39E-05	764	4.10E-06
430	7.97E-05	497	1.25E-04	564	3.63E-04	631	9.80E-04	698	3.33E-05	765	3.90E-06
431	8.77E-05	498	1.31E-04	565	3.68E-04	632	7.15E-04	699	3.22E-05	766	3.50E-06
432	9.50E-05	499	1.36E-04	566	3.71E-04	633	4.98E-04	700	3.10E-05	767	3.80E-06
433	1.03E-04	500	1.40E-04	567	3.74E-04	634	5.93E-04	701	2.99E-05	768	3.60E-06
434	1.13E-04	501	1.45E-04	568	3.79E-04	635	7.24E-04	702	2.94E-05	769	3.60E-06
435	1.24E-04	502	1.49E-04	569	3.83E-04	636	5.62E-04	703	2.85E-05	770	3.60E-06
436	1.35E-04	503	1.55E-04	570	3.84E-04	637	3.59E-04	704	2.74E-05	771	3.30E-06
437	1.48E-04	504	1.60E-04	571	3.88E-04	638	2.74E-04	705	2.67E-05	772	3.30E-06
438	1.63E-04	505	1.65E-04	572	3.91E-04	639	2.41E-04	706	2.58E-05	773	2.90E-06
439	1.81E-04	506	1.68E-04	573	3.95E-04	640	2.24E-04	707	2.50E-05	774	3.10E-06
440	1.94E-04	507	1.72E-04	574	3.99E-04	641	2.13E-04	708	2.41E-05	775	3.00E-06
441	2.13E-04	508	1.77E-04	575	4.00E-04	642	2.04E-04	709	2.33E-05	776	3.10E-06
442	2.31E-04	509	1.80E-04	576	4.02E-04	643	1.98E-04	710	2.28E-05	777	2.80E-06
443	2.43E-04	510	1.84E-04	577	4.03E-04	644	1.93E-04	711	2.18E-05	778	2.80E-06
444	2.53E-04	511	1.88E-04	578	4.04E-04	645	1.93E-04	712	2.13E-05	779	2.80E-06
445	2.65E-04	512	1.92E-04	579	4.08E-04	646	2.24E-04	713	2.05E-05	780	2.80E-06
446	2.66E-04	513	1.96E-04	580	4.09E-04	647	2.88E-04	714	2.00E-05	N/A	N/A

4.0 LM-79 Measurement and Test Results

4.2 Goniophotometer Test

Model No.	PWLED/480 @72W3000K	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	0.160	70.8	0.922
NON-WORST CASE	N/A	N/A	N/A	N/A	N/A

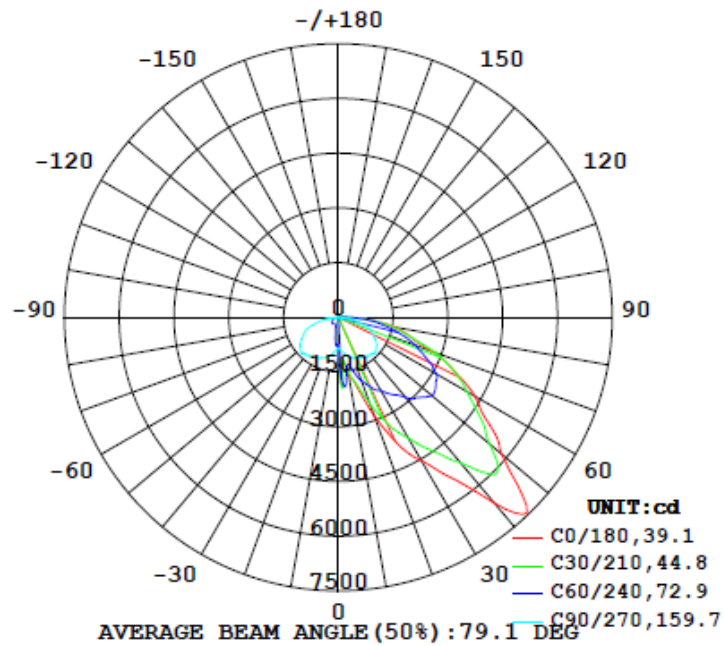
Test Result

Result Type	Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement (80°-90°)	BUG
		C0-180	C90-270	C0-180	C90-270			
0°-180° zones	8874	89.5	150.2	39.9	84.1	125.3	4.8%	B1-U3-G3
0°-90° zones	8683	89.5	150.2	39.9	84.1	122.6	4.9%	B1-U3-G3

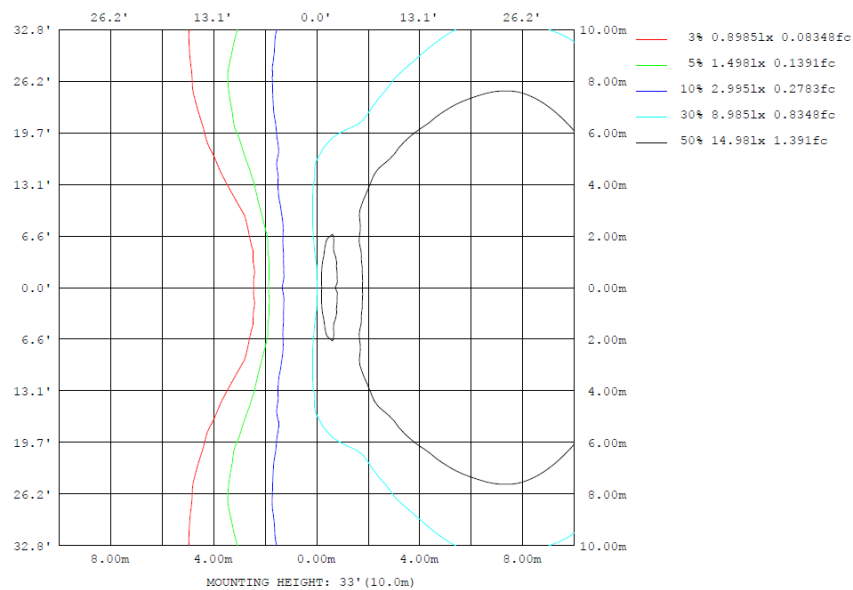
4.2 Goniophotometer Test

Lighting Distribution Curve

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



Isolux Plot



4.2 Goniophotometer Test

Zonal Lumen Summary

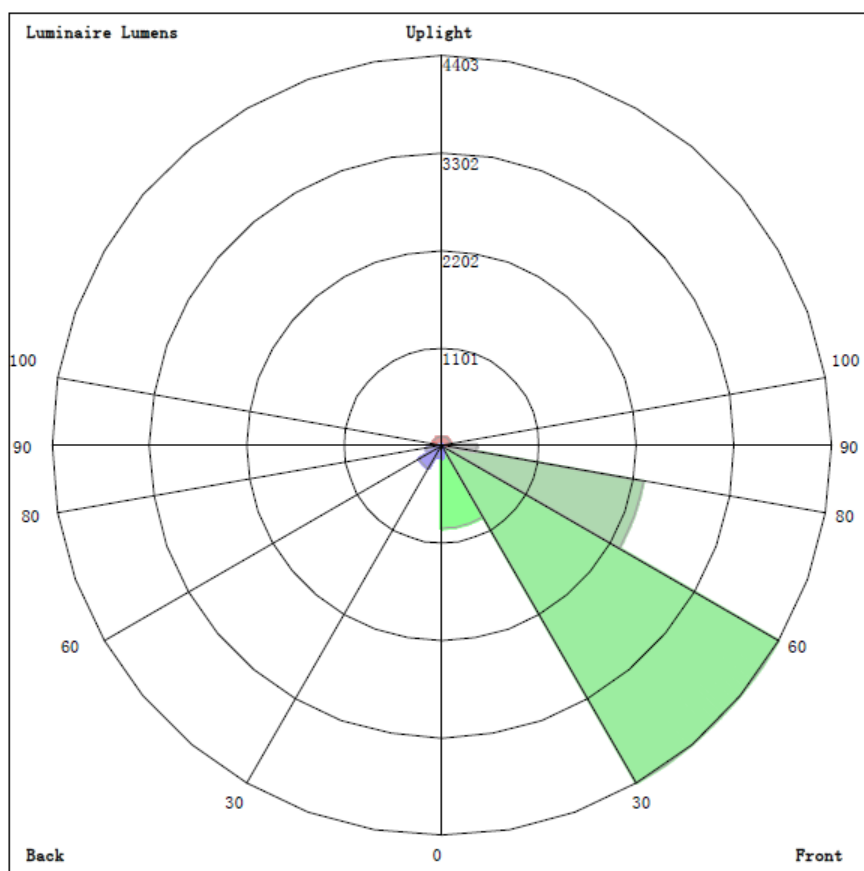
ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	zone	total	lum, lamp
10	1558	1298	1018	322.0	174.5	322.0	1018	1298	0- 10	97.57	97.57	1.1,1.1
20	2866	2139	1191	116.6	54.71	116.6	1191	2139	10- 20	294.3	391.9	4.42,4.42
30	4532	3178	1280	100.8	38.90	100.8	1280	3178	20- 30	672.8	1065	12,12
40	6646	4071	1360	95.44	17.24	95.44	1360	4071	30- 40	1172	2237	25.2,25.2
50	5824	4837	1367	88.27	4.093	88.27	1367	4837	40- 50	1757	3994	45,45
60	4316	3797	1173	76.88	0.1867	76.88	1173	3797	50- 60	1770	5763	64.9,64.9
70	2709	2746	901.8	59.87	0.4432	59.87	901.8	2746	60- 70	1498	7262	81.8,81.8
80	1569	1472	413.6	39.47	1.033	39.47	413.6	1472	70- 80	993.3	8255	93,93
90	272.9	327.5	59.83	15.41	1.894	15.41	59.83	327.5	80- 90	428.4	8683	97.8,97.8
100	140.3	112.9	11.09	6.174	2.889	6.174	11.09	112.9	90-100	91.83	8775	98.9,98.9
110	79.12	52.89	7.057	4.698	3.595	4.698	7.057	52.89	100-110	40.51	8816	99.3,99.3
120	40.73	34.13	5.936	4.677	3.943	4.677	5.936	34.13	110-120	21.15	8837	99.6,99.6
130	32.02	26.42	5.128	4.799	4.450	4.799	5.128	26.42	120-130	14.05	8851	99.7,99.7
140	26.66	21.08	4.113	4.454	4.301	4.454	4.113	21.08	130-140	10.06	8861	99.9,99.9
150	21.01	16.89	3.490	3.640	3.897	3.640	3.490	16.89	140-150	6.764	8868	99.9,99.9
160	15.03	13.41	3.327	3.104	2.944	3.104	3.327	13.41	150-160	4.096	8872	100,100
170	11.00	11.86	3.086	2.839	1.968	2.839	3.086	11.86	160-170	1.977	8874	100,100
180	1.643	1.803	2.042	2.030	1.622	2.030	2.042	1.803	170-180	0.4269	8874	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

	Zonal (lm)		Total (lm)	Percent
0-10	97.57	0-10	97.57	1.10%
10-20	294.32	0-20	391.89	4.42%
20-30	672.77	0-30	1064.66	12.00%
30-40	1172.13	0-40	2236.79	25.21%
40-50	1756.84	0-50	3993.63	45.01%
50-60	1769.51	0-60	5763.14	64.95%
60-70	1498.42	0-70	7261.56	81.83%
70-80	993.29	0-80	8254.85	93.03%
80-90	428.44	0-90	8683.29	97.85%
90-100	91.83	0-100	8775.12	98.89%
100-110	40.51	0-110	8815.63	99.35%
110-120	21.15	0-120	8836.78	99.58%
120-130	14.05	0-130	8850.83	99.74%
130-140	10.06	0-140	8860.89	99.86%
140-150	6.76	0-150	8867.65	99.93%
150-160	4.10	0-160	8871.75	99.98%
160-170	1.98	0-170	8873.73	100.00%
170-180	0.43	0-180	8874.16	100.00%

4.2 Goniophotometer Test

LCS/BUG

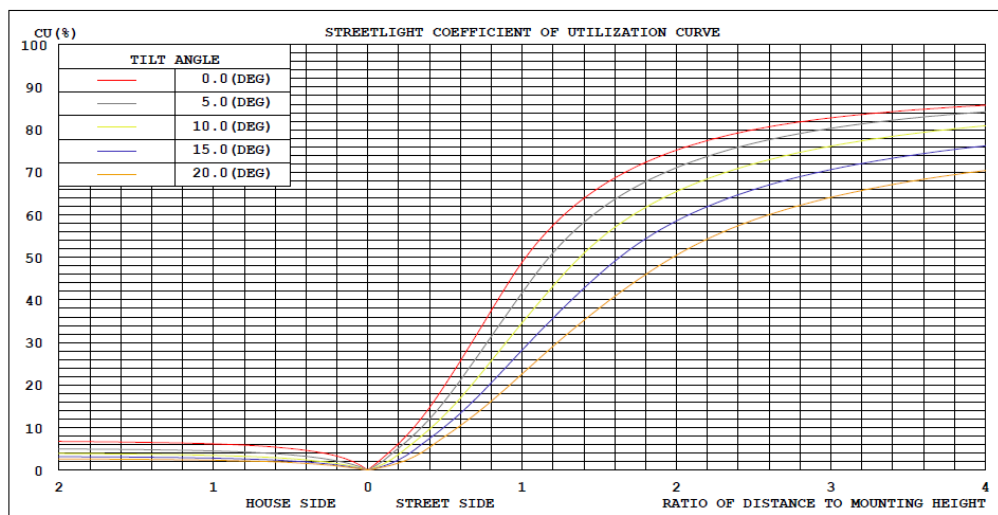


LUMINAIRE CLASSIFICATION SYSTEM (LCS)

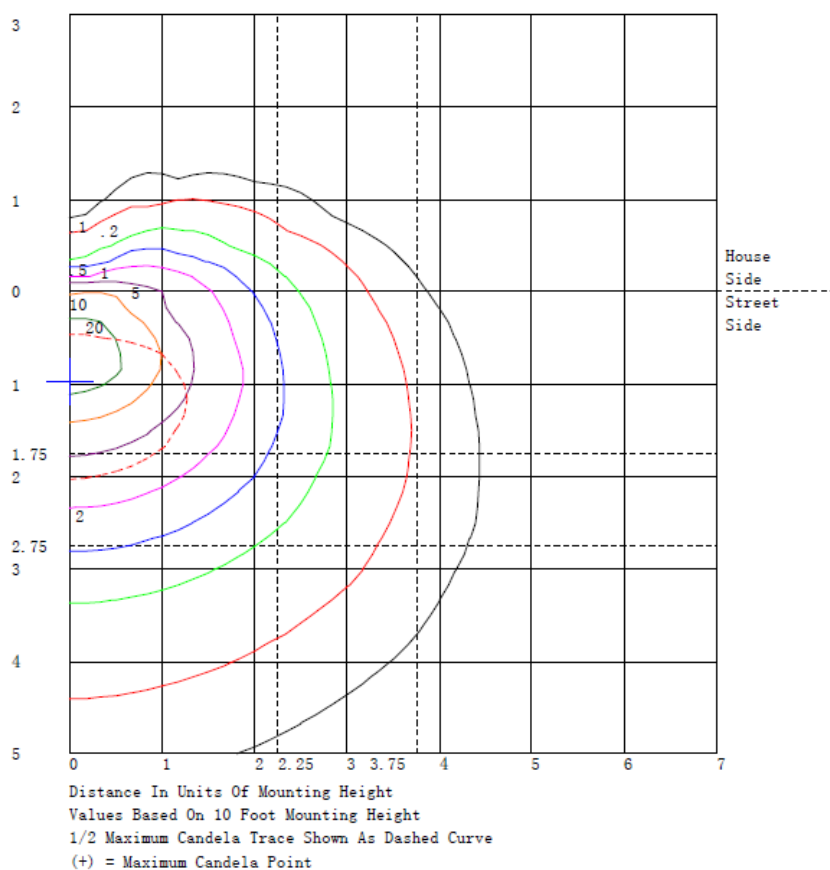
	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	932.8	N.A.	10.5
FM - Front-Medium (30-60)	4403.3	N.A.	49.6
FH - Front-High (60-80)	2316.8	N.A.	26.1
FVH - Front-Very High (80-90)	398.3	N.A.	4.5
BL - Back-Low (0-30)	131.8	N.A.	1.5
BM - Back-Medium (30-60)	295.2	N.A.	3.3
BH - Back-High (60-80)	174.9	N.A.	2.0
BVH - Back-Very High (80-90)	30.1	N.A.	0.3
UL - Uplight-Low (90-100)	91.8	N.A.	1.0
UH - Uplight-High (100-180)	99.0	N.A.	1.1
Total	8874.0	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)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	855	873	887	886	879	859	844	825	966	1056	1110	1133	855	1133	1110	1056	966	825	844
5	1370	1407	1568	1861	1902	1608	917	709	776	693	594	527	547	527	594	693	776	709	917
10	1558	1537	1430	1298	1341	1758	1018	696	515	322	218	176	174	176	218	322	515	696	1018
15	1974	1981	1862	1797	1485	1437	1120	599	310	162	108	88.6	84.0	88.6	108	162	310	599	1120
20	2866	2822	2521	2139	1852	1383	1191	529	228	117	74.0	56.8	54.7	56.8	74.0	117	228	529	1191
25	3806	3735	3241	2711	2109	1598	1258	467	209	104	62.5	45.1	44.1	45.1	62.5	104	209	467	1258
30	4532	4354	3818	3178	2319	1577	1280	442	212	101	58.8	40.7	38.9	40.7	58.8	101	212	442	1280
35	5369	5072	4458	3596	2588	1541	1300	481	224	98.4	57.1	34.2	27.9	34.2	57.1	98.4	224	481	1300
40	6646	6095	5204	4071	2869	1568	1360	486	233	95.4	54.8	25.3	17.2	25.3	54.8	95.4	233	486	1360
45	7281	6817	6087	4628	3107	1586	1414	485	244	93.2	53.2	20.4	9.78	20.4	53.2	93.2	244	485	1414
50	5824	5606	5405	4837	3340	1787	1367	476	243	88.3	52.9	17.7	4.09	17.7	52.9	88.3	243	476	1367
55	4980	4849	4725	4320	3254	1926	1272	483	230	81.3	55.7	17.0	0.66	17.0	55.7	81.3	230	483	1272
60	4316	4220	4070	3797	3103	1840	1173	458	206	76.9	57.3	19.4	0.19	19.4	57.3	76.9	206	458	1173
65	3519	3503	3485	3310	2654	1690	1030	410	177	67.4	60.6	21.2	0.28	21.2	60.6	67.4	177	410	1030
70	2709	2741	2805	2746	2250	1451	902	344	151	59.9	55.2	19.7	0.44	19.7	55.2	59.9	151	344	902
75	2033	2006	2025	2076	1761	1189	661	253	110	52.3	48.9	16.7	0.70	16.7	48.9	52.3	110	253	661
80	1569	1528	1484	1472	1260	785	414	174	81.8	39.5	37.4	13.2	1.03	13.2	37.4	39.5	81.8	174	414
85	854	847	849	891	798	459	201	104	54.4	25.9	24.9	9.00	1.43	9.00	24.9	25.9	54.4	104	201
90	273	275	292	327	317	172	59.8	52.5	28.6	15.4	14.5	5.70	1.89	5.70	14.5	15.4	28.6	52.5	59.8
95	189	185	181	180	158	69.7	17.1	22.4	15.3	8.53	7.57	3.63	2.37	3.63	7.57	8.53	15.3	22.4	17.1
100	140	136	125	113	94.2	42.8	11.1	13.6	10.1	6.17	5.46	3.05	2.89	3.05	5.46	6.17	10.1	13.6	11.1
105	103	99.4	89.3	75.7	61.3	29.8	8.38	9.86	7.43	5.11	4.58	2.94	3.35	2.94	4.58	5.11	7.43	9.86	8.38
110	79.1	75.2	64.1	52.9	41.8	22.6	7.06	7.60	6.02	4.70	4.27	3.09	3.59	3.09	4.27	4.70	6.02	7.60	7.06
115	52.6	51.3	45.9	40.5	32.5	18.9	6.39	6.37	5.42	4.61	4.29	3.41	3.80	3.41	4.29	4.61	5.42	6.37	6.39
120	40.7	40.6	37.8	34.1	27.1	16.5	5.94	5.77	5.15	4.68	4.49	3.80	3.94	3.80	4.49	4.68	5.15	5.77	5.94
125	35.6	35.8	33.1	29.7	23.4	15.0	5.59	5.49	5.01	4.78	4.69	4.16	4.23	4.16	4.69	4.78	5.01	5.49	5.59
130	32.0	32.2	29.4	26.4	20.5	13.9	5.13	5.01	4.91	4.80	4.76	4.36	4.45	4.36	4.76	4.80	4.91	5.01	5.13
135	28.8	29.1	26.6	23.4	18.4	13.0	4.63	4.65	4.74	4.74	4.68	4.36	4.39	4.36	4.68	4.74	4.74	4.65	4.63
140	26.7	26.3	24.2	21.1	16.7	12.2	4.11	4.27	4.45	4.45	4.40	4.13	4.30	4.13	4.40	4.45	4.45	4.27	4.11
145	23.6	23.6	21.8	18.9	15.3	11.8	3.73	3.93	4.00	4.05	3.99	3.76	4.13	3.76	3.99	4.05	4.00	3.93	3.73
150	21.0	21.0	19.3	16.9	14.0	11.8	3.49	3.66	3.65	3.64	3.57	3.39	3.90	3.39	3.57	3.64	3.65	3.66	3.49
155	17.7	17.8	16.8	14.9	12.9	11.9	3.41	3.54	3.49	3.38	3.24	3.06	3.49	3.06	3.24	3.38	3.49	3.54	3.41
160	15.0	15.2	14.6	13.4	12.2	12.1	3.33	3.37	3.28	3.10	2.91	2.60	2.94	2.60	2.91	3.10	3.28	3.37	3.33
165	12.7	12.7	12.7	12.2	12.0	8.05	3.21	3.21	3.12	2.96	2.77	2.10	2.37	2.10	2.77	2.96	3.12	3.21	3.21
170	11.0	11.0	11.4	11.9	10.3	3.06	3.09	3.03	2.96	2.84	2.46	1.99	1.97	1.99	2.46	2.84	2.96	3.03	3.09
175	6.99	6.73	5.39	2.63	2.18	2.40	2.59	2.56	2.46	2.38	2.25	2.12	1.88	2.12	2.25	2.38	2.46	2.56	2.59
180	1.64	1.62	1.66	1.80	1.92	2.01	2.04	2.04	2.05	2.03	2.01	1.97	1.62	1.97	2.01	2.03	2.05	2.04	2.04

Table--2

UNIT: cd

C (DEG)	285	300	315	330	345														
0	859	879	886	887	873														
5	1608	1902	1861	1568	1407														
10	1758	1341	1298	1430	1537														
15	1437	1485	1797	1862	1981														
20	1383	1852	2139	2521	2822														
25	1598	2109	2711	3241	3735														
30	1577	2319	3178	3818	4354														
35	1541	2588	3596	4458	5072														
40	1568	2869	4071	5204	6095														
45	1586	3107	4628	6087	6817														
50	1787	3340	4837	5405	5606														
55	1926	3254	4320	4725	4849														
60	1840	3103	3797	4070	4220														
65	1690	2654	3310	3485	3503														
70	1451	2250	2746	2805	2741														
75	1189	1761	2076	2025	2006														
80	785	1260	1472	1484	1528														
85	459	798	891	849	847														
90	172	317	327	292	275														
95	69.7	158	180	181	185														
100	42.8	94.2	113	125	136														
105	29.8	61.3	75.7	89.3	99.4														
110	22.6	41.8	52.9	64.1	75.2														
115	18.9	32.5	40.5	45.9	51.3														
120	16.5	27.1	34.1	37.8	40.6														
125	15.0	23.4	29.7	33.1	35.8														
130	13.9	20.5	26.4	29.4	32.2														
135	13.0	18.4	23.4	26.6	29.1														
140	12.2	16.7	21.1	24.2	26.3														
145	11.8	15.3	18.9	21.8	23.6														
150	11.8	14.0	16.9	19.3	21.0														
155	11.9	12.9	14.9	16.8	17.8														
160	12.1	12.2	13.4	14.6	15.2														
165	8.05	12.0	12.2	12.7	12.7														
170	3.06	10.3	11.9	11.4	11.0														
175	2.40	2.18	2.63	5.39	6.73														
180	2.01	1.92	1.80	1.66	1.62														

4.0 LM-79 Measurement and Test Results

4.3 THD and PF Test

Model No.	PWLED/480 @72W3000K	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	0.160	70.8	0.922	7.34

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*****