

Test Report

Report Number: L21121

Date: Aug 23, 2021

Issued by:

Dialight Optics Laboratory
1501 Route 34 South, Farmingdale, NJ 07727

Test of one Ultra Wide/Dome Lens/Neutral White Highbay
Unit manufacturer: Dialight Corporation
Unit model number: [K,V][C,E,F,W][D,U]-[L,Z]UN-[5,9]Bx-xxx-xx

Issued to:

Dialight Corporation
1501 Route 34 South, Farmingdale, NJ 07727

Tests performed: Photometric characterization and temperature measurement per the described standards.

Dates of test: August 12, 2021 through August 23, 2021

Standards used: All tests are performed in accordance with procedures and guidelines prescribed by the American National Standards Institute (ANSI) or Illuminating Engineering Society of North America (IES):

- IES LM-79:2008: Electrical and Photometric Measurements of Solid-State Lighting Products
- ANSI/UL 1598:2008: Underwriters Laboratories Inc. Standard for Safety: Luminaires
- ENERGY STAR Manufacturer's Guide for Qualifying Solid State Lighting Luminaires Version 2.1

Description of sample:

Sample Number: L21121
Manufacturer: Dialight Corporation
Product Name: Highbay
Description: Ultra Wide/Dome Lens/Neutral White Highbay
Model Number: [K,V][C,E,F,W][D,U]-[L,Z]UN-[5,9]Bx-xxx-xx

Report Summary

Sample number L21121

Dialight unit model number [K,V][C,E,F,W][D,U]-[L,Z]UN-[5,9]Bx-xxx-xx

Photograph(s) of sample:



*Photographs not to scale. For reference only.

Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	13494 (lumens)	13404 (lumens)
Electrical Power:	91.9 (W)	91.8 (W)
Luminous Efficacy:	146.8 (lumens/W)	146 (lumens/W)

Electrical Measurements:

Input Power (480VAC): 91.9 (W)
 Power Factor (480VAC): 0.9392
 Current ATHD % (480VAC): 13.33
 Input Power (347VAC): 91.1 (W)
 Power Factor (347VAC): 0.9851
 Current ATHD % (347VAC): 14.10

Color Measurements:

Correlated Color Temperature (CCT): 4100
 Color Rendering Index (CRI): 82.29
 Chromaticity Coordinate (x): 0.377
 Chromaticity Coordinate (y): 0.378
 Chromaticity Coordinate (u'): 0.223
 Chromaticity Coordinate (v'): 0.501
 DUV: 0.0014

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21121.

Dialight unit model number [K,V][C,E,F,W][D,U]-[L,Z]UN-[5,9]Bx-xxx-xx

Test Conditions:

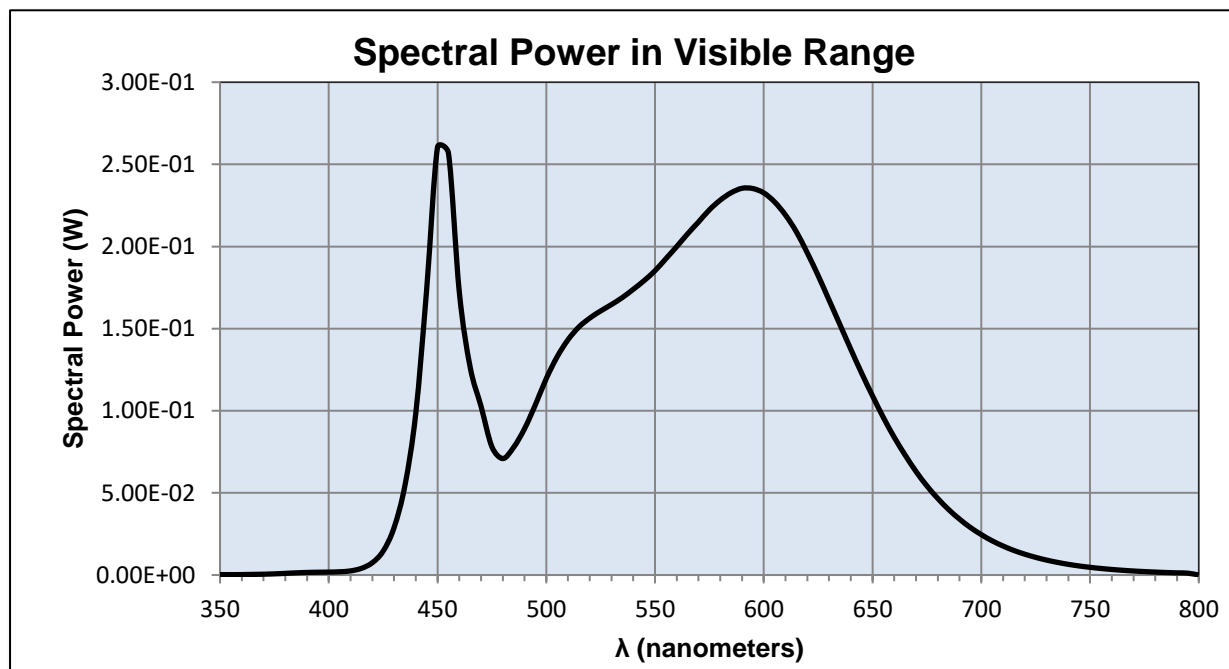
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 480.0 (VAC)
Input Current: 0.203 (A)
Input Power: 91.9 (W)
Input Power Factor: 0.9392
Current ATHD: 13.33 (%)

Photometric measurements:

Luminous Flux: 13493.6 (lumens)
Luminous Efficacy: 146.8 (lumens/W)
Correlated Color Temperature (CCT): 4100 (K)
CRI -Ra: 82.29
CRI -R9: 0.56
DUV: 0.0014
CIE Coordinate (x): 0.377
CIE Coordinate (y): 0.378
CIE Coordinate (u'): 0.223
CIE Coordinate (v'): 0.501
TM30_Rf: 83.5
TM30_Rg: 94.0
TM30_Rcs_hue1: -12.98 %



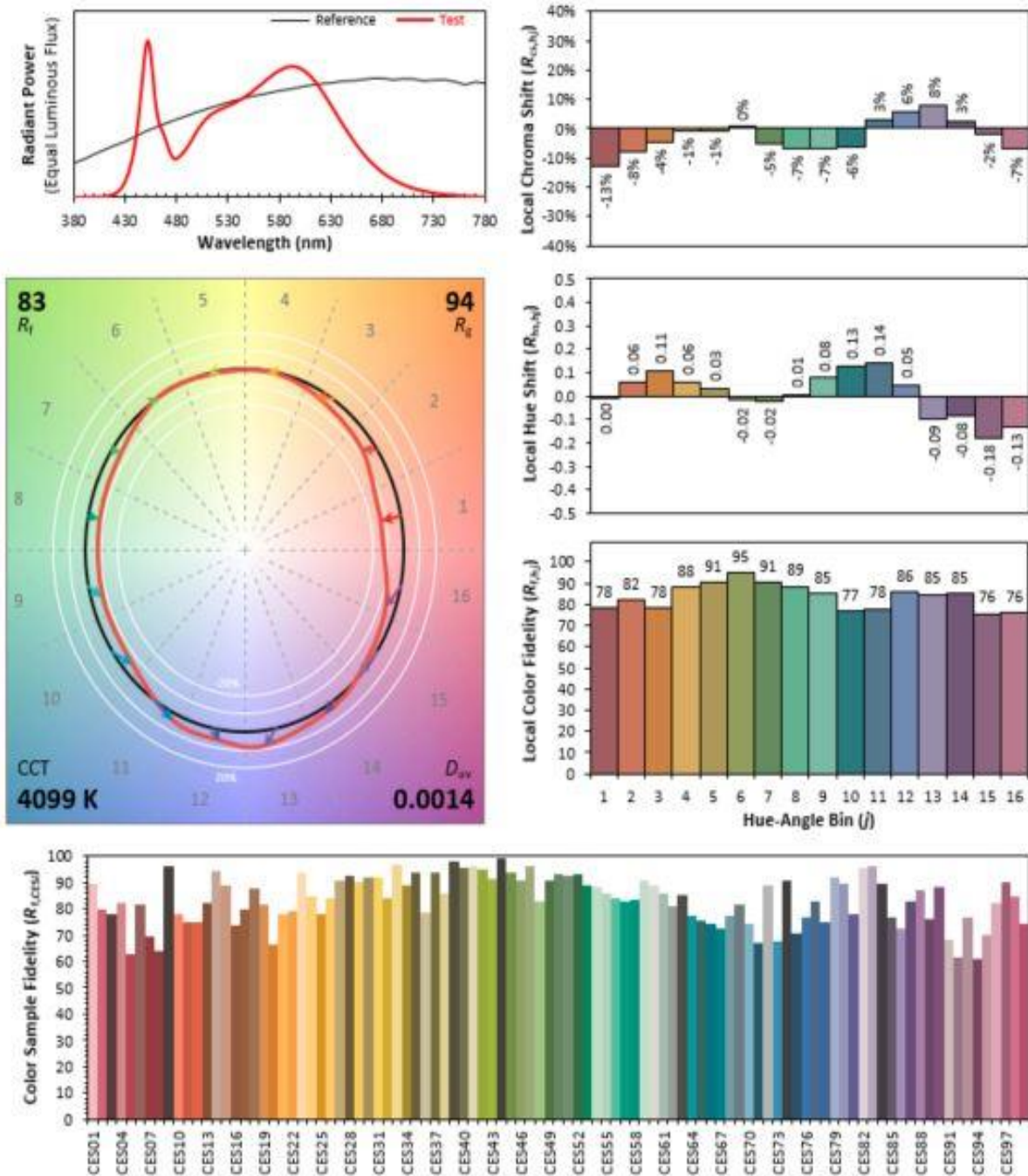
Test Results: Integrating Sphere

Results continued from previous page.

Tabulated Spectral Power in Visible Range:

$\lambda(\text{nm})$	(W/nm)	$\lambda(\text{nm})$	(W/nm)	$\lambda(\text{nm})$	(W/nm)	$\lambda(\text{nm})$	(W/nm)
350	0.00027	490	0.08904	630	0.16743	770	0.00245
355	0.00023	495	0.10366	635	0.15247	775	0.00210
360	0.00029	500	0.11957	640	0.13746	780	0.00179
365	0.00039	505	0.13286	645	0.12288	785	0.00153
370	0.00050	510	0.14324	650	0.10908	790	0.00131
375	0.00070	515	0.15098	655	0.09586	795	0.00113
380	0.00100	520	0.15640	660	0.08381	800	0.00096
385	0.00133	525	0.16076	665	0.07300		
390	0.00157	530	0.16467	670	0.06304		
395	0.00170	535	0.16895	675	0.05426		
400	0.00178	540	0.17393	680	0.04662		
405	0.00198	545	0.17922	685	0.03985		
410	0.00251	550	0.18526	690	0.03404		
415	0.00406	555	0.19257	695	0.02893		
420	0.00748	560	0.19999	700	0.02461		
425	0.01453	565	0.20774	705	0.02083		
430	0.02881	570	0.21493	710	0.01768		
435	0.05443	575	0.22231	715	0.01495		
440	0.09839	580	0.22824	720	0.01269		
445	0.17375	585	0.23273	725	0.01076		
450	0.26046	590	0.23543	730	0.00910		
455	0.25697	595	0.23526	735	0.00770		
460	0.17232	600	0.23263	740	0.00651		
465	0.12659	605	0.22707	745	0.00552		
470	0.10274	610	0.21910	750	0.00468		
475	0.07808	615	0.20888	755	0.00398		
480	0.07090	620	0.19616	760	0.00340		
485	0.07777	625	0.18229	765	0.00288		

IES TM-30-18 Color Rendition Report



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

x 0.3770
 y 0.3776
 u' 0.2226
 v' 0.5014

CIE 13.3-1995
(CRI)

R_a 82
 R_g 1

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21121.

Dialight unit model number [K,V][C,E,F,W][D,U]-[L,Z]UN-[5,9]Bx-xxx-xx

Electrical Measurements:

Input Voltage: 480.0 (VAC)
 Input current: 0.20 (A)
 Input Power: 91.83 (W)
 Power Factor: 0.9410

Photometric measurements:

Absolute Luminous Flux: 13403.6 (lumens)
 Luminous Efficacy: 146.0 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	2511	2512	2513	2512	2511	
5.00	2515	2508	2502	2508	2513	255
15.00	2505	2482	2472	2477	2473	704
25.00	2421	2421	2419	2424	2386	1116
35.00	2428	2435	2427	2454	2381	1519
45.00	2694	2695	2650	2729	2669	2080
55.00	3128	3126	2985	3167	3166	2805
65.00	2992	2935	2813	2833	2887	2888
75.00	1568	1670	1747	1390	1340	1597
85.00	389	425	442	351	327	262
90.00	216	215	217	200	195	

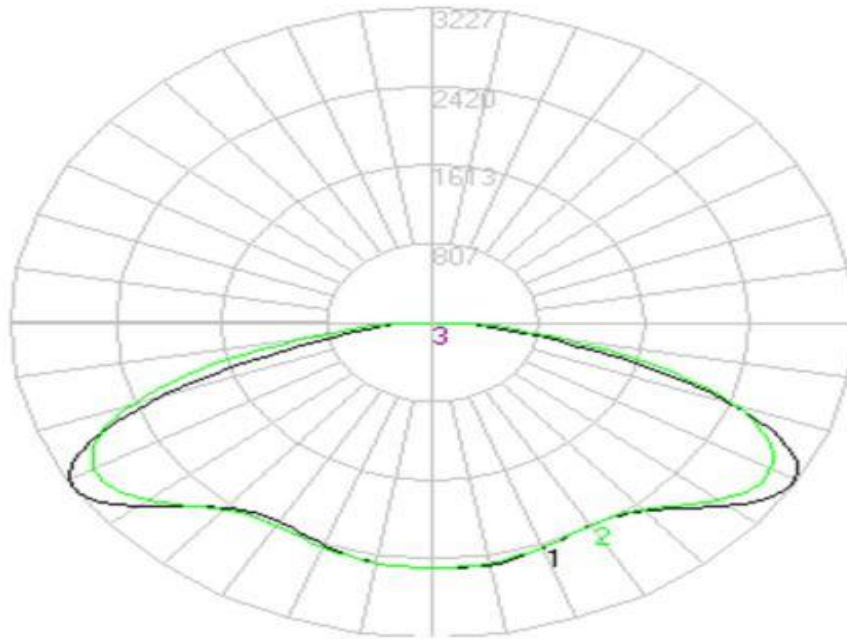
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	2062.55	15.39	15.39
0 to 40	3591.99	26.80	26.80
0 to 60	8422.25	62.84	62.84
0 to 90	13403.62	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	13403.62	100.00	100.00

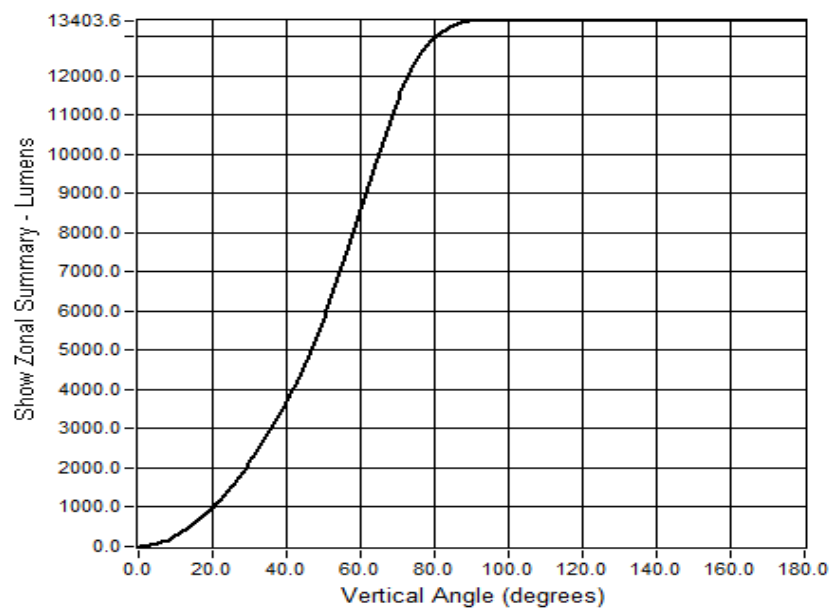
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



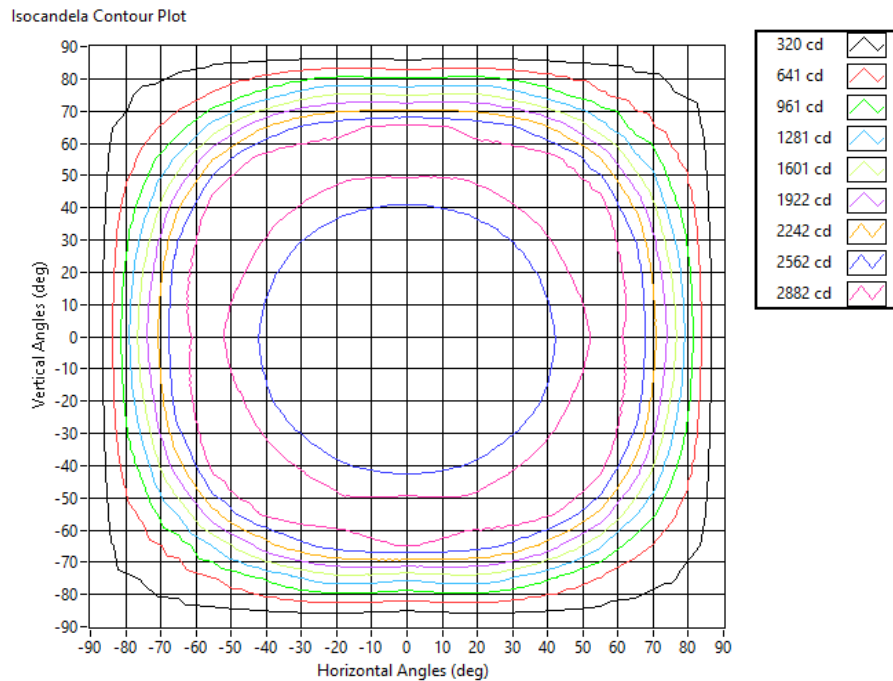
Zonal Flux Graph



Test Results: Goniometer

Results continued from previous page.

Illuminance Plot:



Illuminance-Cone of Light:

Mounting Height (ft)	Beam Cone Width (ft)	Orthogonal Beam Cone Width (ft)	Projected Illuminance (fc)
2	15.82	19.59	627.9
4	31.63	39.18	157.0
6	47.45	58.78	69.8
8	63.27	78.37	39.2
10	79.09	97.96	25.1
12	94.90	117.55	17.4
14	110.72	137.15	12.8
16	126.54	156.74	9.8
18	142.35	176.33	7.8
20	158.17	195.92	6.3

Equipment Used:

Equipment Name	Model Number
Omega TC	DPI8
YOKOGAWA Digital Power Meter	11/26/3981
LSI High Speed Mirror Goniometer	6240T
Elgar AC Power Supply	CW1251P
Sorensen DC Power Supply	XHR150-7
Dialight Confirmation Sample	HB1N4N
Dialight Confirmation Sample	HB1N4J
Fluke 8808A Digit Multimeter	8808A
Step-Up Transformer	
ITL Osram Calibraton lamps for Goniometer	J9a8
ITL Osram Calibraton lamps for Goniometer	J9a8
ITL Osram Calibraton lamps for Goniometer	J9a8
Fluke 971 Humidity Meter	8/28/1902
GwINSTEK DC Power Supply	GEP172679
Dialight Confirmation Sample	1/0/1900
Labsphere calibration lamp for 2M sphere	SCL-1400
Labshere 2M sphere	Illumia Plus 2600-1
Labshere Controller	PM-150-140
Labshere Spectrameter- CDS 2600 Spectrometer	CDS-2600
Xitron Power Analyzer	9/1/1907
LED Bulb for Electrical Confirmation Test-Gold Sample	Monte Carlo
LED Bulb for Electrical Confirmation Test-Gold Sample	Monte Carlo
LED Bulb for Electrical Confirmation Test-Gold Sample	Monte Carlo

Additional Notes:

Samples are received and tested in new and undamaged condition, unless otherwise noted.
The results shown in this report are representative only of the test samples submitted. This data has been issued to the assignee for further evaluation.
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Approved Signatory