

Test Report

Report Number: L21114

Date: Aug 13, 2021

Issued by:

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

Test of one 11k/Oval/Dome Lens/Neutral White

Unit manufacturer: Dialight Corporation

Unit model number: [K,V][C,E,F,W][D,U]-[L,Z]EN-[5,9]Ax-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: July 27, 2021 through July 27, 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: L21114

Manufacturer: Dialight Corporation

Product Name: Highbay

Description: 11k/Oval/Dome Lens/Neutral White

Model Number: [K,V][C,E,F,W][D,U]-[L,Z]EN-[5,9]Ax-xxx-xx

Report Summary

Sample number L21114

Dialight unit model number [K,V][C,E,F,W][D,U]-[L,Z]EN-[5,9]Ax-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:	10514 (lumens)	10564 (lumens)
Electrical Power:	65.2 (W)	65.2 (W)
Luminous Efficacy:	161.3 (lumens/W)	162.2 (lumens/W)

Electrical Measurements:

Input Power (480VAC): 65.2 (W)
 Power Factor (480VAC): 0.8980
 Current ATHD % (480VAC): 14.86
 Input Power (347VAC): 65.0 (W)
 Power Factor (347VAC): 0.9577
 Current ATHD % (347VAC): 15.50

Color Measurements:

Correlated Color Temperature (CCT): 4116
 Color Rendering Index (CRI): 82.66
 Chromaticity Coordinate (x): 0.376
 Chromaticity Coordinate (y): 0.376
 Chromaticity Coordinate (u'): 0.223
 Chromaticity Coordinate (v'): 0.501
 DUV: 0.0010

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21114.

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

Test Conditions:

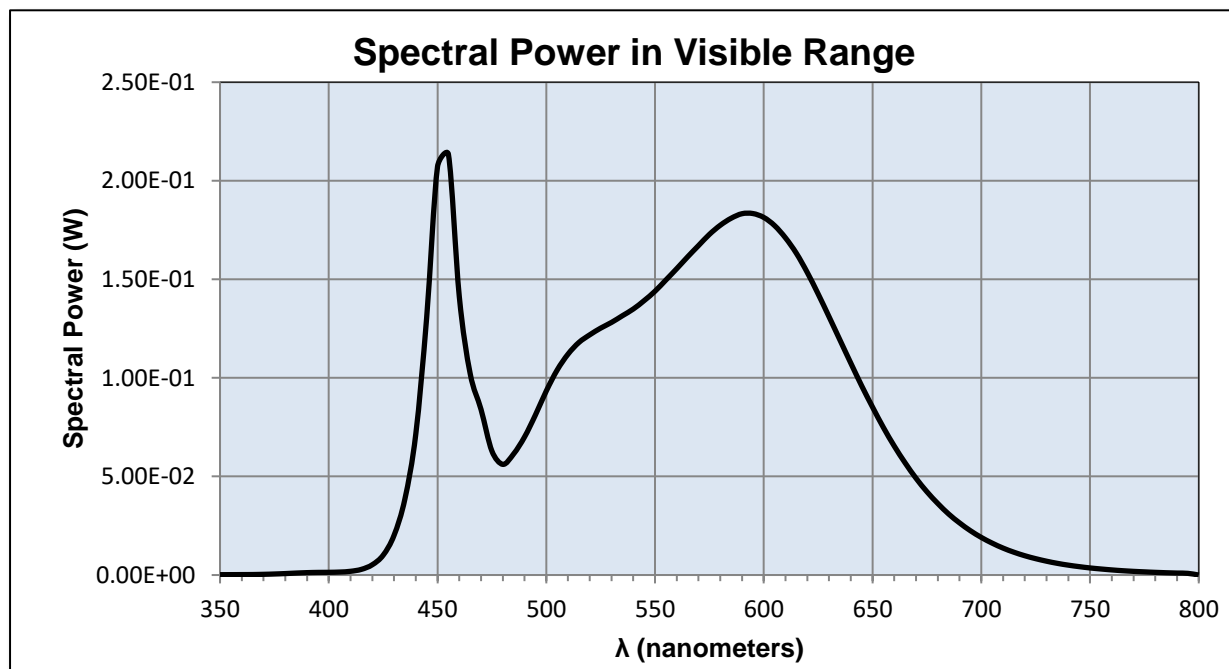
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 480.0 (VAC)
Input Current: 0.151 (A)
Input Power: 65.2 (W)
Input Power Factor: 0.8980
Current ATHD: 14.86 (%)

Photometric measurements:

Luminous Flux: 10514.3 (lumens)
Luminous Efficacy: 161.3 (lumens/W)
Correlated Color Temperature (CCT): 4116 (K)
CRI -Ra: 82.66
CRI -R9: 2.28
DUV: 0.0010
CIE Coordinate (x): 0.376
CIE Coordinate (y): 0.376
CIE Coordinate (u'): 0.223
CIE Coordinate (v'): 0.501
TM30_Rf: 83.5
TM30_Rg: 94.0
TM30_Rcs_hue1: -12.84 %



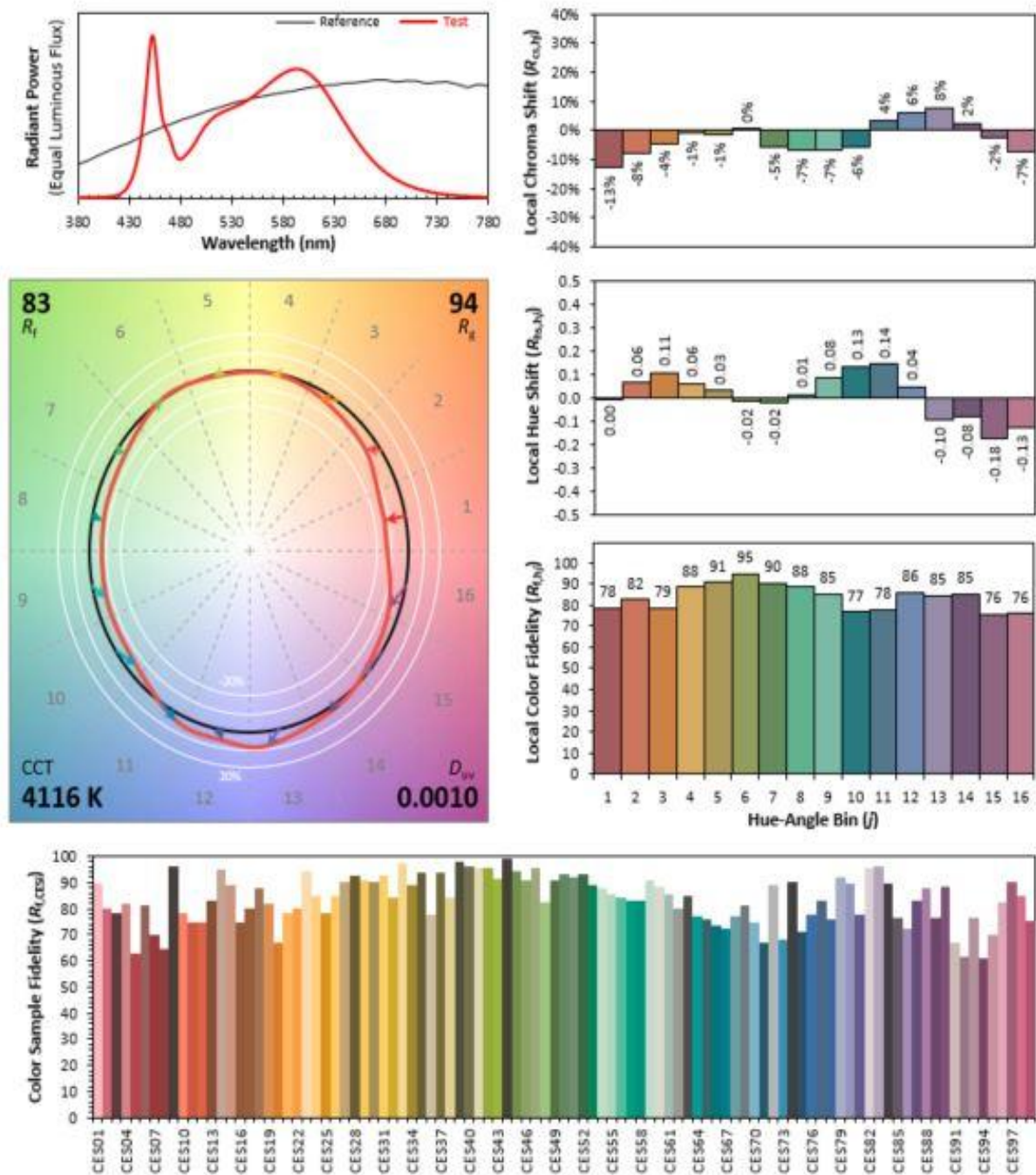
Test Results: Integrating Sphere

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	0.00018	490	0.07001	630	0.13104	770	0.00187
355	0.00020	495	0.08116	635	0.11927	775	0.00160
360	0.00023	500	0.09335	640	0.10751	780	0.00136
365	0.00025	505	0.10397	645	0.09602	785	0.00116
370	0.00036	510	0.11206	650	0.08521	790	0.00099
375	0.00052	515	0.11798	655	0.07485	795	0.00085
380	0.00074	520	0.12186	660	0.06540	800	0.00073
385	0.00100	525	0.12525	665	0.05687		
390	0.00121	530	0.12815	670	0.04911		
395	0.00133	535	0.13154	675	0.04227		
400	0.00138	540	0.13494	680	0.03631		
405	0.00151	545	0.13920	685	0.03095		
410	0.00188	550	0.14398	690	0.02645		
415	0.00288	555	0.14967	695	0.02248		
420	0.00522	560	0.15544	700	0.01909		
425	0.01006	565	0.16143	705	0.01618		
430	0.02012	570	0.16713	710	0.01368		
435	0.03860	575	0.17279	715	0.01157		
440	0.07140	580	0.17744	720	0.00979		
445	0.13049	585	0.18099	725	0.00830		
450	0.20720	590	0.18330	730	0.00702		
455	0.21342	595	0.18337	735	0.00591		
460	0.14128	600	0.18141	740	0.00501		
465	0.10225	605	0.17723	745	0.00425		
470	0.08401	610	0.17101	750	0.00360		
475	0.06288	615	0.16318	755	0.00307		
480	0.05613	620	0.15350	760	0.00259		
485	0.06146	625	0.14259	765	0.00218		

IES TM-30-18 Color Rendition Report



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

x 0.3761
 y 0.3761
 u' 0.2225
 v' 0.5006

CIE 13.3-1995
(CRI)
 R_a 83
 R_g 2

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21114.
Dialight unit model number [K,V][C,E,F,W][D,U]-[L,Z]EN-[5,9]Ax-xxx-xx

Electrical Measurements:

Input Voltage: 480.2 (VAC)
Input current: 0.15 (A)
Input Power: 65.15 (W)
Power Factor: 0.8987

Photometric measurements:

Absolute Luminous Flux: 10564.1 (lumens)
Luminous Efficacy: 162.2 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	6260	6248	6245	6243	6260	
5.00	6068	6194	6226	6152	6094	622
15.00	4910	5823	5782	5017	4976	1465
25.00	3685	5146	4919	3725	3741	1872
35.00	2861	4263	3882	2879	2908	1998
45.00	1816	3286	2922	1786	1858	1663
55.00	683	2309	2031	643	693	944
65.00	273	1362	1008	251	274	495
75.00	157	456	281	143	158	221
85.00	99	125	124	89	98	82
90.00	90	96	110	75	90	

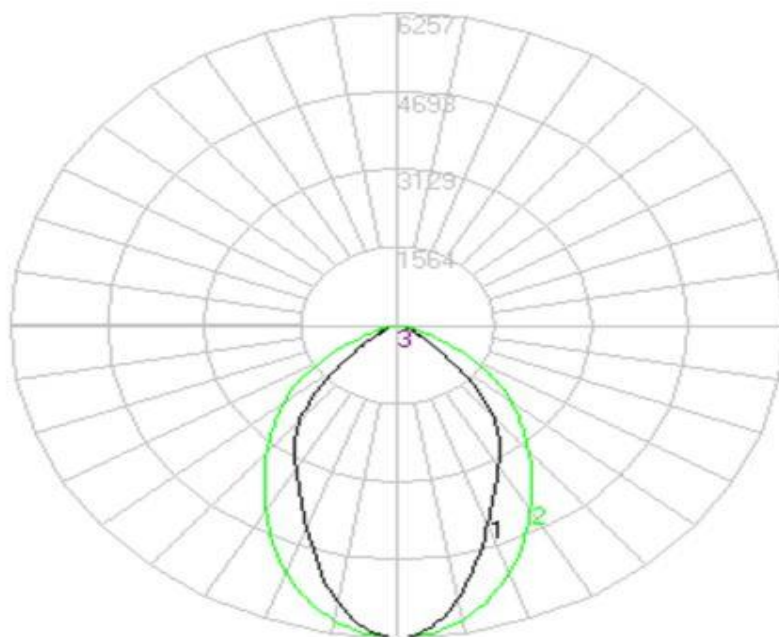
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	4063.33	38.46	38.46
0 to 40	6225.48	58.93	58.93
0 to 60	9423.94	89.21	89.21
0 to 90	10564.14	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	10564.14	100.00	100.00

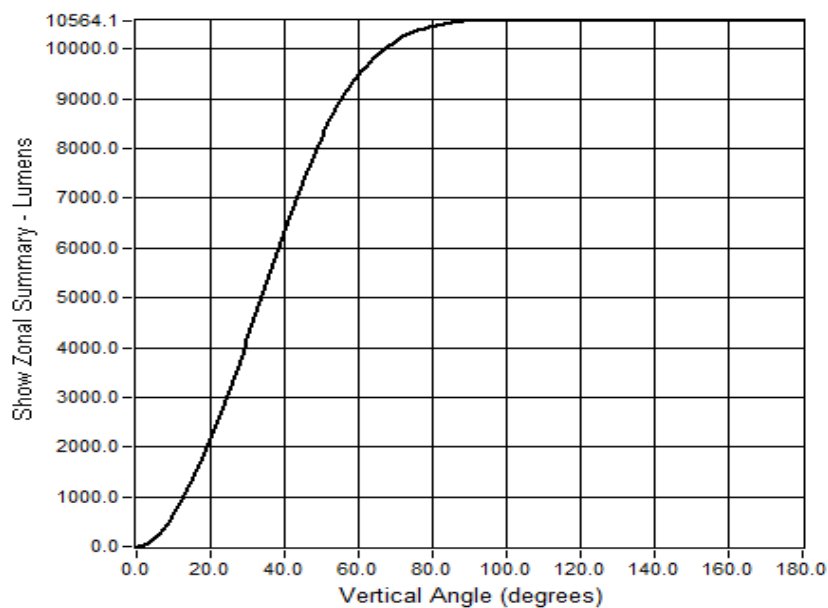
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



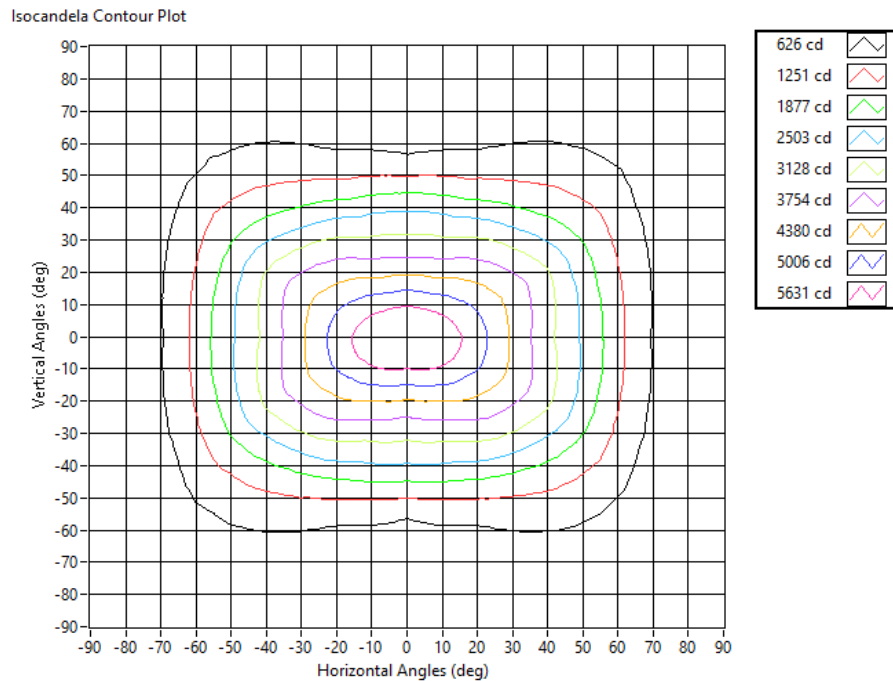
Zonal Flux Graph



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	2.51	3.50	1562.4
4	5.02	7.00	390.6
6	7.54	10.50	173.6
8	10.05	14.00	97.7
10	12.56	17.50	62.5
12	15.07	21.00	43.4
14	17.58	24.50	31.9
16	20.10	28.00	24.4
18	22.61	31.50	19.3
20	25.12	35.00	15.6

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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Optical Engineer
Approved Signatory