

Test Report

Report Number: L21119

Date: Aug 18, 2021

Issued by:

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

Test of one Ultral Wide/Dome Lens/ Neutral White Highbay
Unit manufacturer: Dialight Corporation
Unit model number: [K,V][C,E,F,W][D,U]-[L,Z]UN-[2,8]6x-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 6, 2021 through August 9, 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: L21119
Manufacturer: Dialight Corporation
Product Name: Highbay
Description: Ultral Wide/Dome Lens/ Neutral White Highbay
Model Number: [K,V][C,E,F,W][D,U]-[L,Z]UN-[2,8]6x-xxx-xx

Report Summary

Sample number L21119

Dialight unit model number [K,V][C,E,F,W][D,U]-[L,Z]UN-[2,8]6x-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:	6159 (lumens)	6123 (lumens)
Electrical Power:	43.0 (W)	43.1 (W)
Luminous Efficacy:	143.1 (lumens/W)	142.1 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 43.0 (W)
 Power Factor (120VAC): 0.9893
 Current ATHD % (120VAC): 12.58
 Input Power (277VAC): 42.6 (W)
 Power Factor (277VAC): 0.9292
 Current ATHD % (277VAC): 18.00

Color Measurements:

Correlated Color Temperature (CCT): 4116
 Color Rendering Index (CRI): 82.51
 Chromaticity Coordinate (x): 0.376
 Chromaticity Coordinate (y): 0.377
 Chromaticity Coordinate (u'): 0.222
 Chromaticity Coordinate (v'): 0.501
 DUV: 0.0012

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21119.

Dialight unit model number [K,V][C,E,F,W][D,U]-[L,Z]UN-[2,8]6x-xxx-xx

Test Conditions:

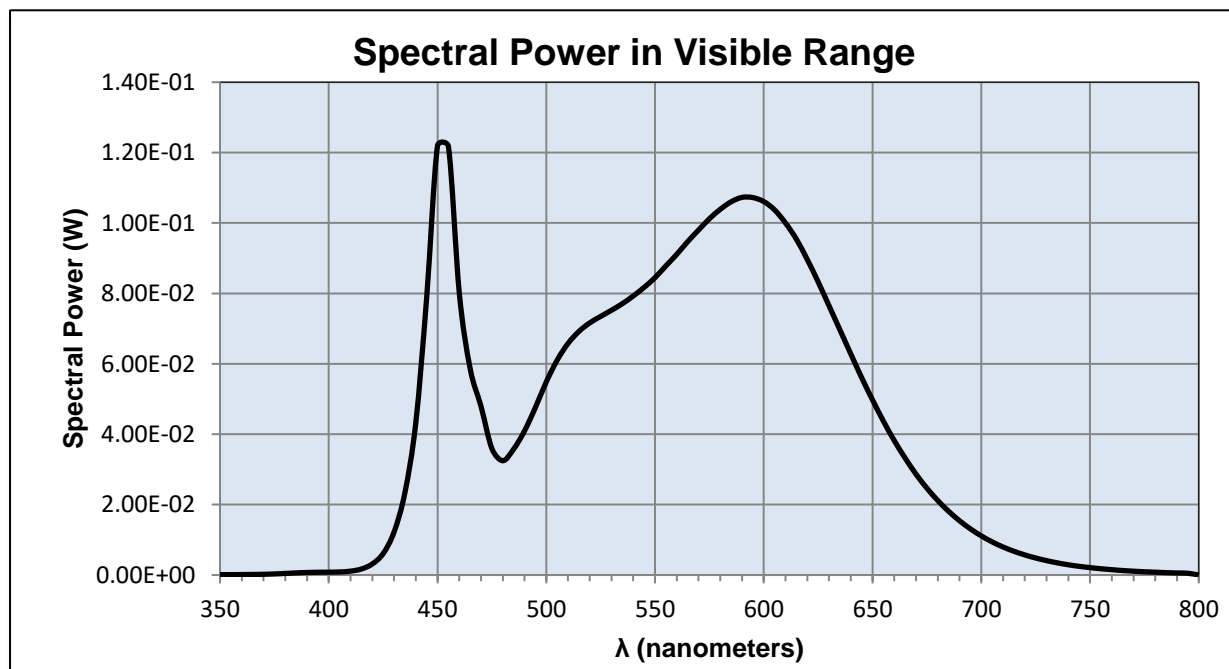
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120.0 (VAC)
Input Current: 0.362 (A)
Input Power: 43.0 (W)
Input Power Factor: 0.9893
Current ATHD: 12.58 (%)

Photometric measurements:

Luminous Flux: 6159.3 (lumens)
Luminous Efficacy: 143.1 (lumens/W)
Correlated Color Temperature (CCT): 4116 (K)
CRI -Ra: 82.51
CRI -R9: 1.53
DUV: 0.0012
CIE Coordinate (x): 0.376
CIE Coordinate (y): 0.377
CIE Coordinate (u'): 0.222
CIE Coordinate (v'): 0.501
TM30_Rf: 83.5
TM30_Rg: 94.0
TM30_Rcs_hue1: -12.90 %



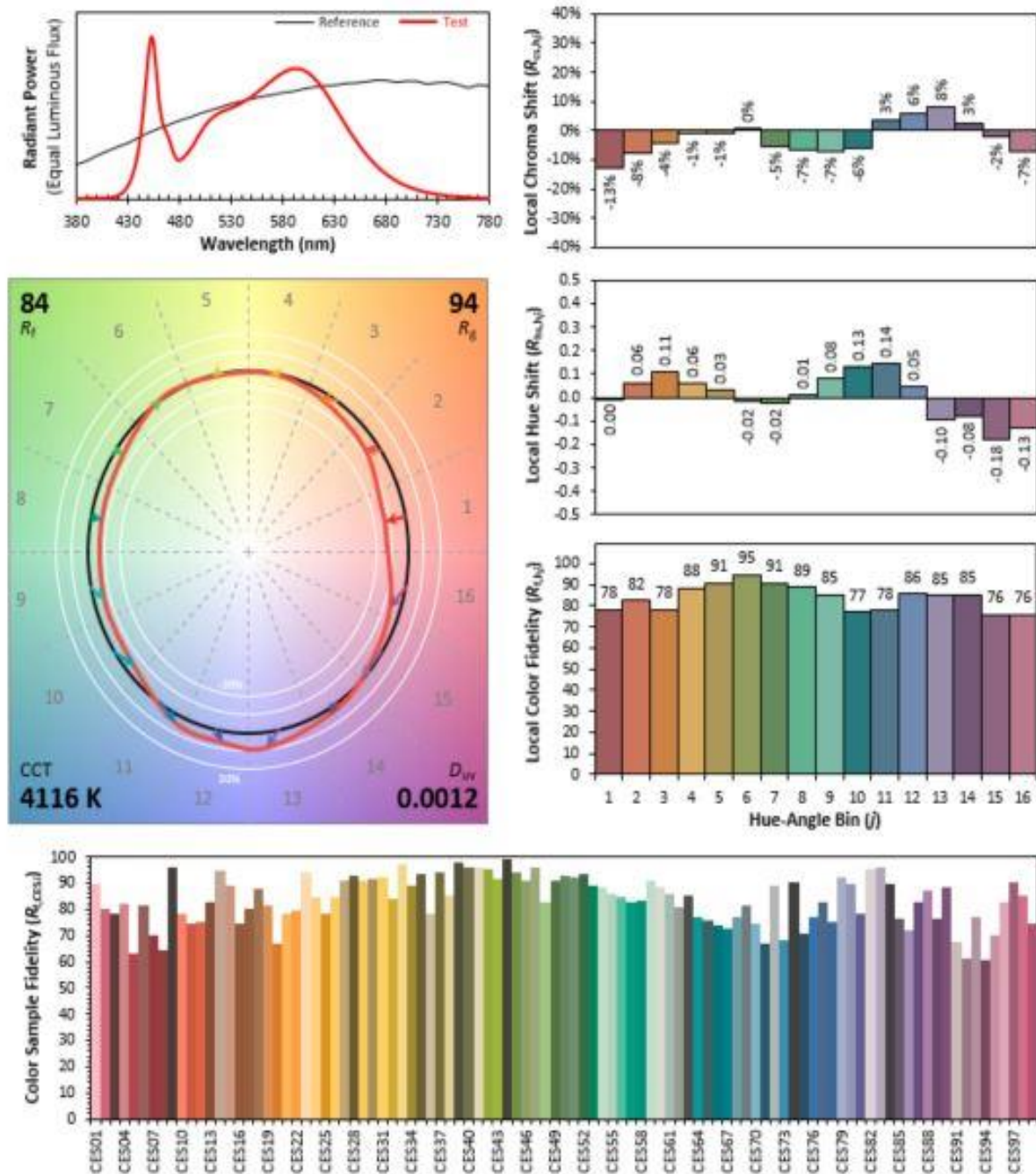
Test Results: Integrating Sphere

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	0.00011	490	0.04093	630	0.07649	770	0.00109
355	0.00010	495	0.04759	635	0.06966	775	0.00093
360	0.00014	500	0.05486	640	0.06282	780	0.00080
365	0.00017	505	0.06104	645	0.05607	785	0.00068
370	0.00021	510	0.06579	650	0.04975	790	0.00058
375	0.00031	515	0.06919	655	0.04372	795	0.00050
380	0.00044	520	0.07163	660	0.03817	800	0.00042
385	0.00061	525	0.07347	665	0.03322		
390	0.00072	530	0.07522	670	0.02866		
395	0.00078	535	0.07710	675	0.02468		
400	0.00082	540	0.07927	680	0.02116		
405	0.00088	545	0.08172	685	0.01810		
410	0.00110	550	0.08449	690	0.01542		
415	0.00171	555	0.08782	695	0.01311		
420	0.00314	560	0.09111	700	0.01112		
425	0.00609	565	0.09470	705	0.00942		
430	0.01221	570	0.09799	710	0.00796		
435	0.02341	575	0.10121	715	0.00675		
440	0.04320	580	0.10389	720	0.00572		
445	0.07873	585	0.10604	725	0.00484		
450	0.12196	590	0.10728	730	0.00409		
455	0.12175	595	0.10722	735	0.00345		
460	0.08012	600	0.10609	740	0.00291		
465	0.05867	605	0.10371	745	0.00247		
470	0.04791	610	0.09999	750	0.00210		
475	0.03592	615	0.09539	755	0.00178		
480	0.03247	620	0.08963	760	0.00152		
485	0.03579	625	0.08327	765	0.00128		

IES TM-30-18 Color Rendition Report



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

x 0.3762
 y 0.3767
 u' 0.2224
 v' 0.5009

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 L21119.
Dialight unit model number [K,V][C,E,F,W][D,U]-[L,Z]UN-[2,8]6x-xxx-xx

Electrical Measurements:

Input Voltage: 120.0 (VAC)
Input current: 0.36 (A)
Input Power: 43.08 (W)
Power Factor: 0.9895

Photometric measurements:

Absolute Luminous Flux: 6122.8 (lumens)
Luminous Efficacy: 142.1 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	1050	1051	1051	1051	1050	
5.00	1063	1061	1055	1049	1048	107
15.00	1087	1082	1064	1051	1042	302
25.00	1073	1072	1057	1037	1036	488
35.00	1114	1118	1093	1073	1076	688
45.00	1264	1252	1211	1214	1221	957
55.00	1477	1399	1362	1439	1460	1295
65.00	1386	1304	1315	1351	1380	1351
75.00	721	754	813	679	641	747
85.00	164	187	191	154	131	108
90.00	82	85	84	75	71	

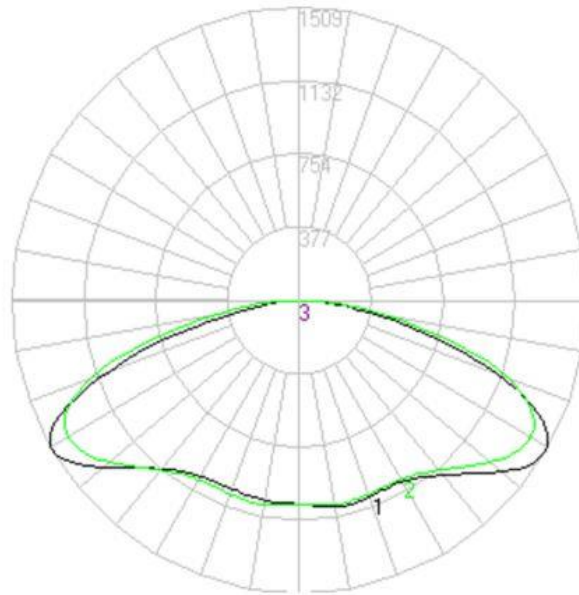
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	894.07	14.60	14.60
0 to 40	1583.60	25.86	25.86
0 to 60	3806.30	62.17	62.17
0 to 90	6122.85	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	6122.85	100.00	100.00

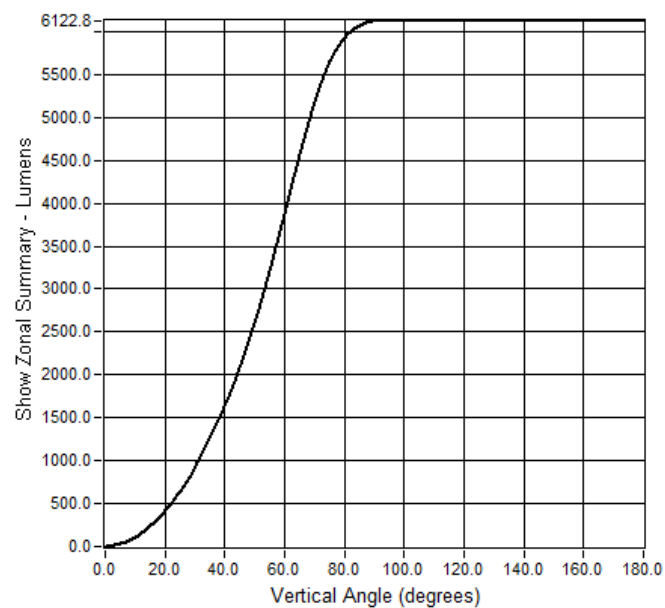
Test Results: Goniometer

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Polar Plot:



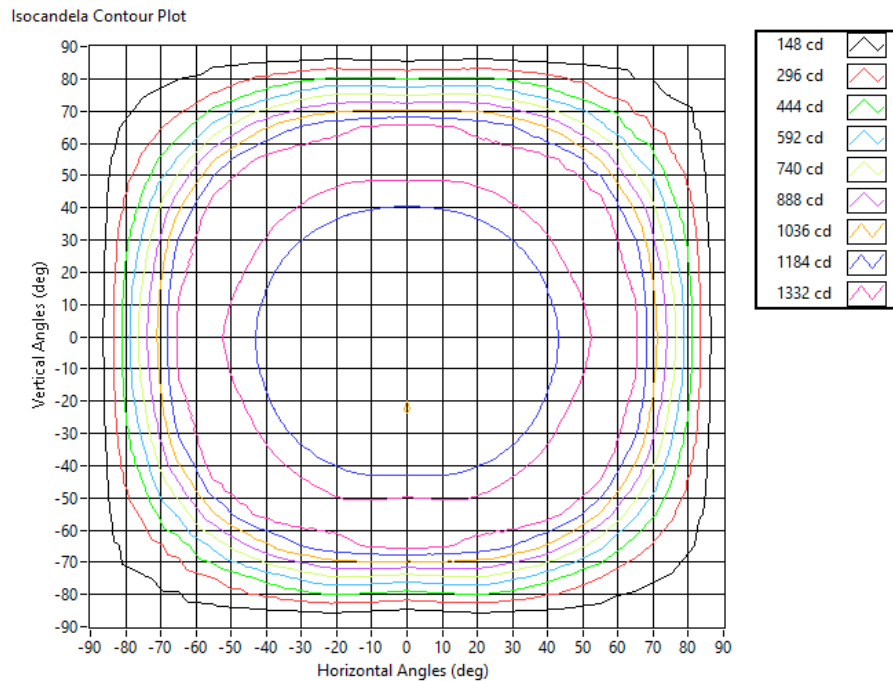
Zonal Flux Graph



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	17.25	22.30	262.7
4	34.50	44.59	65.7
6	51.75	66.89	29.2
8	69.00	89.18	16.4
10	86.25	111.48	10.5
12	103.50	133.77	7.3
14	120.75	156.07	5.4
16	137.99	178.37	4.1
18	155.24	200.66	3.2
20	172.49	222.96	2.6

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