

# Test Report

Report Number: L21120

Date: Aug 23, 2021

Issued by:

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

Test of one Ultra Wide/Dome Lens/ Neutral Wide Highbay  
Unit manufacturer: Dialight Corporation  
Unit model number: [K,V][C,E,F,W][D,U]-[L,Z]UN-[5,9]9x-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 11, 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: L21120  
Manufacturer: Dialight Corporation  
Product Name: Highbay  
Description: Ultra Wide/Dome Lens/ Neutral Wide Highbay  
Model Number: [K,V][C,E,F,W][D,U]-[L,Z]UN-[5,9]9x-xxx-xx

## Report Summary

Sample number L21120

Dialight unit model number [K,V][C,E,F,W][D,U]-[L,Z]UN-[5,9]9x-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:	9118 (lumens)	9023 (lumens)
Electrical Power:	62.7 (W)	62.6 (W)
Luminous Efficacy:	145.5 (lumens/W)	144.2 (lumens/W)

### Electrical Measurements:

Input Power (480VAC): 62.7 (W)  
 Power Factor (480VAC): 0.8910  
 Current ATHD % (480VAC): 15.34  
 Input Power (347VAC): 62.5 (W)  
 Power Factor (347VAC): 0.9683  
 Current ATHD % (347VAC): 15.90

### Color Measurements:

Correlated Color Temperature (CCT): 4085  
 Color Rendering Index (CRI): 82.44  
 Chromaticity Coordinate (x): 0.378  
 Chromaticity Coordinate (y): 0.378  
 Chromaticity Coordinate (u'): 0.223  
 Chromaticity Coordinate (v'): 0.502  
 DUV: 0.0014

## Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21120.

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

### Test Conditions:

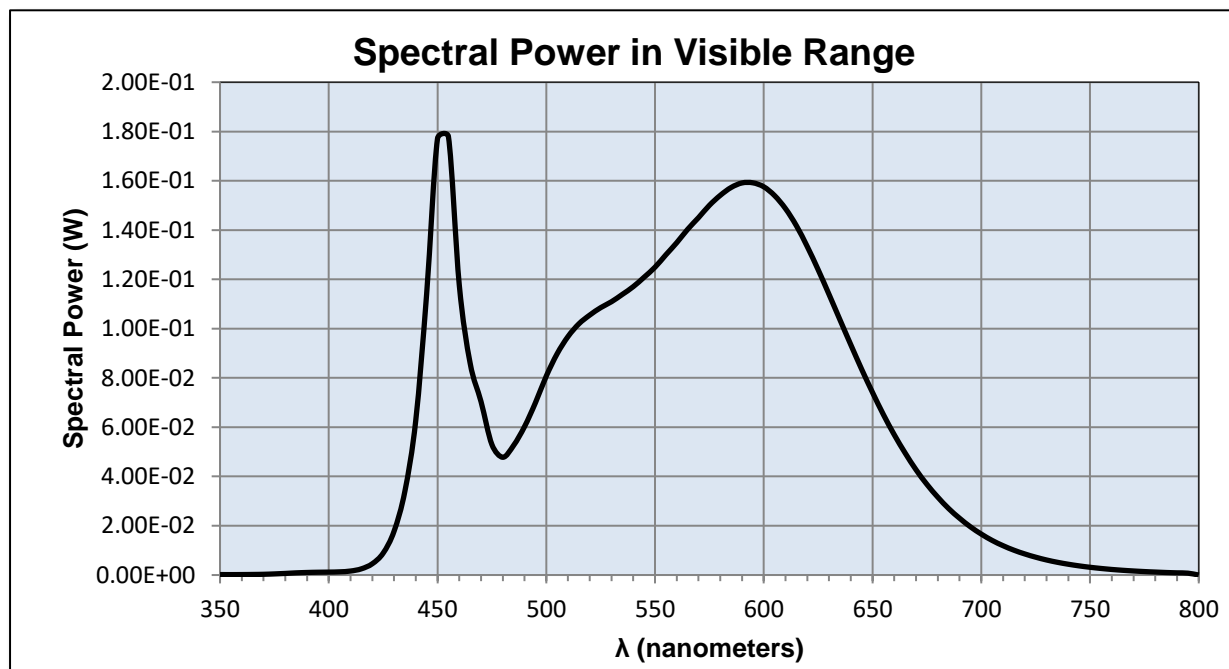
Ambient Temperature:  $25 \pm 1$  (°C)

### Electrical Measurements:

Input Voltage: 480.0 (VAC)  
Input Current: 0.146 (A)  
Input Power: 62.7 (W)  
Input Power Factor: 0.8910  
Current ATHD: 15.34 (%)

### Photometric measurements:

Luminous Flux: 9117.6 (lumens)  
Luminous Efficacy: 145.5 (lumens/W)  
Correlated Color Temperature (CCT): 4085 (K)  
CRI -Ra: 82.44  
CRI -R9: 1.26  
DUV: 0.0014  
CIE Coordinate (x): 0.378  
CIE Coordinate (y): 0.378  
CIE Coordinate (u'): 0.223  
CIE Coordinate (v'): 0.502  
TM30\_Rf: 83.5  
TM30\_Rg: 94.0  
TM30\_Rcs\_hue1: -12.90 %



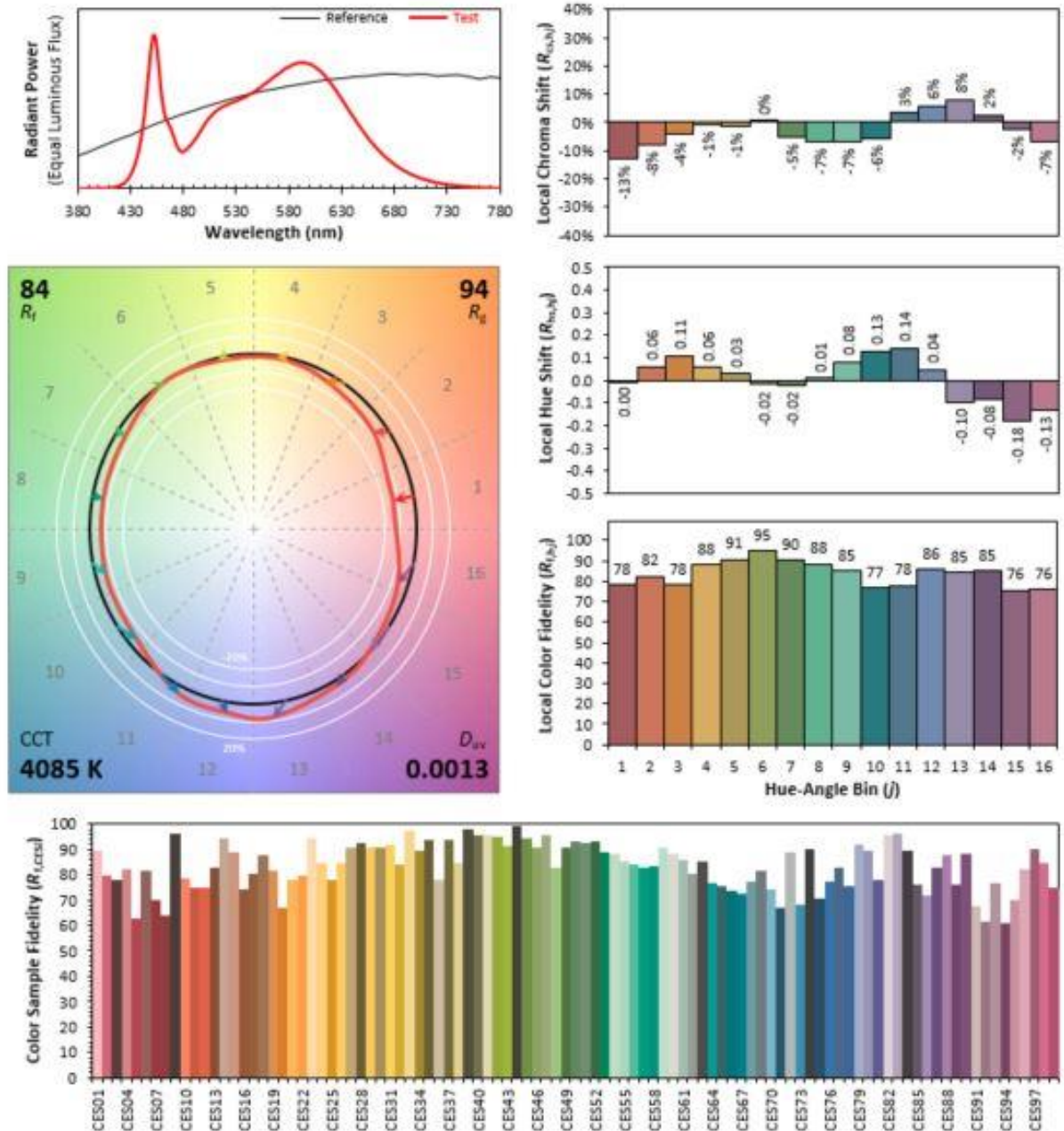
## Test Results: Integrating Sphere

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	0.00019	490	0.06022	630	0.11389	770	0.00164
355	0.00017	495	0.06989	635	0.10363	775	0.00140
360	0.00019	500	0.08073	640	0.09347	780	0.00120
365	0.00023	505	0.08981	645	0.08351	785	0.00103
370	0.00030	510	0.09680	650	0.07408	790	0.00088
375	0.00046	515	0.10194	655	0.06512	795	0.00075
380	0.00065	520	0.10550	660	0.05692	800	0.00065
385	0.00088	525	0.10850	665	0.04951		
390	0.00103	530	0.11092	670	0.04273		
395	0.00113	535	0.11391	675	0.03680		
400	0.00119	540	0.11703	680	0.03161		
405	0.00129	545	0.12087	685	0.02698		
410	0.00162	550	0.12494	690	0.02305		
415	0.00252	555	0.12997	695	0.01958		
420	0.00458	560	0.13489	700	0.01662		
425	0.00888	565	0.14031	705	0.01404		
430	0.01775	570	0.14504	710	0.01191		
435	0.03404	575	0.15004	715	0.01008		
440	0.06278	580	0.15408	720	0.00855		
445	0.11410	585	0.15729	725	0.00724		
450	0.17717	590	0.15912	730	0.00611		
455	0.17798	595	0.15917	735	0.00517		
460	0.11764	600	0.15756	740	0.00438		
465	0.08596	605	0.15396	745	0.00371		
470	0.07039	610	0.14868	750	0.00315		
475	0.05293	615	0.14175	755	0.00267		
480	0.04778	620	0.13330	760	0.00226		
485	0.05263	625	0.12391	765	0.00193		

## IES TM-30-18 Color Rendition Report



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

$x$  0.3776  
 $y$  0.3778  
 $u'$  0.2228  
 $v'$  0.5016

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 L21120.  
Dialight unit model number [K,V][C,E,F,W][D,U]-[L,Z]UN-[5,9]9x-xxx-xx

### Electrical Measurements:

Input Voltage: 480.0 (VAC)  
Input current: 0.15 (A)  
Input Power: 62.57 (W)  
Power Factor: 0.8914

### Photometric measurements:

Absolute Luminous Flux: 9022.6 (lumens)  
Luminous Efficacy: 144.2 (lumens/W)

### Intensity Summary:

#### Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	1696	1696	1696	1696	1696	
5.00	1689	1691	1697	1699	1702	172
15.00	1661	1674	1685	1687	1674	474
25.00	1618	1630	1649	1634	1609	751
35.00	1624	1637	1644	1638	1614	1022
45.00	1792	1800	1782	1810	1801	1392
55.00	2147	2072	1982	2055	2103	1877
65.00	2077	1956	1863	1869	1920	1945
75.00	1061	1101	1204	1027	896	1087
85.00	261	297	324	270	213	181
90.00	149	154	157	145	128	

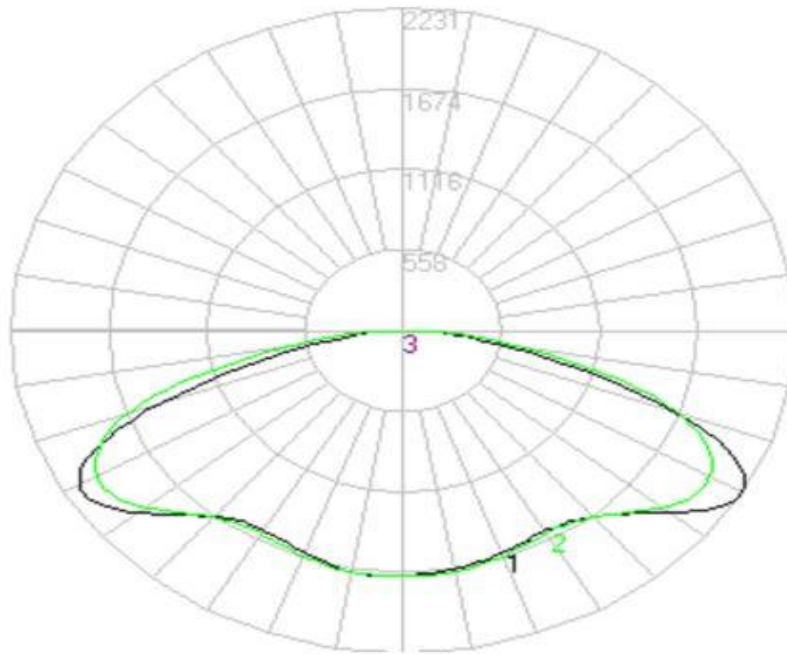
#### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	1390.53	15.41	15.41
0 to 40	2419.59	26.82	26.82
0 to 60	5666.58	62.80	62.80
0 to 90	9022.63	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	9022.63	100.00	100.00

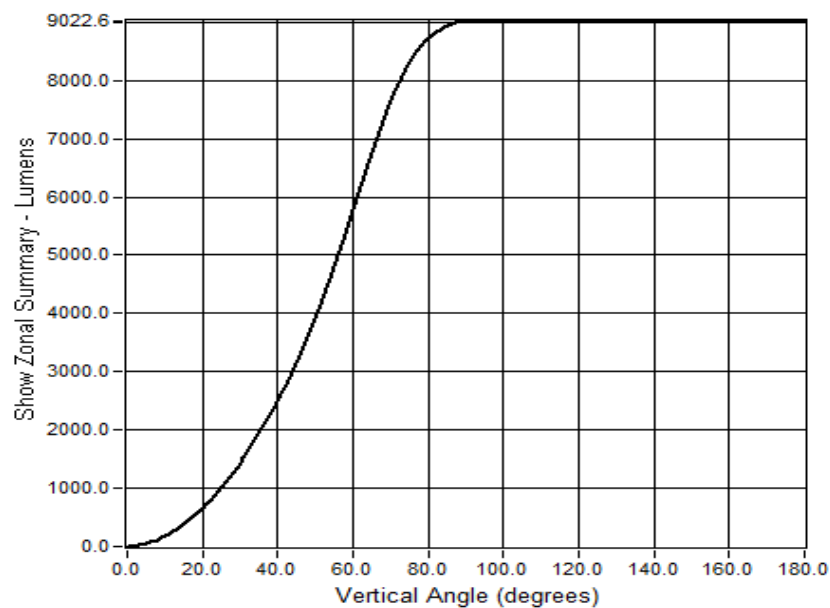
## Test Results: Goniometer

Results continued from previous page.

### Polar Plot:



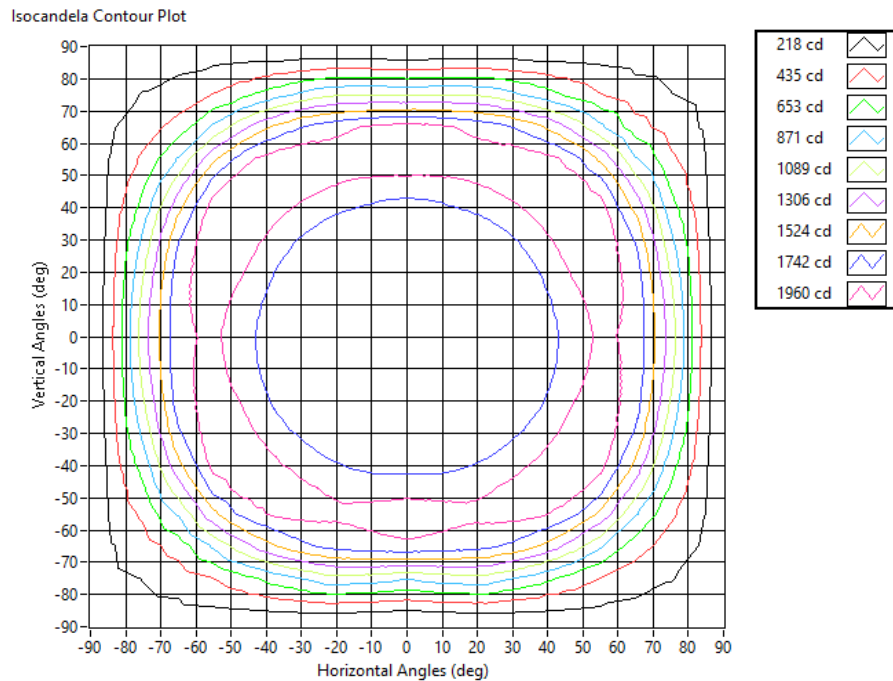
Zonal Flux Graph



## 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	15.87	19.72	424.0
4	31.73	39.44	106.0
6	47.60	59.16	47.1
8	63.46	78.87	26.5
10	79.33	98.59	17.0
12	95.20	118.31	11.8
14	111.06	138.03	8.7
16	126.93	157.75	6.6
18	142.79	177.47	5.2
20	158.66	197.18	4.2



# 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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## Test Report Issued By:

Richard Huegi  
Dialight Optics Laboratory  
Senior Optical Engineering Technician  
Lighting Division

## Test Report Reviewed and Approved By:

Vishnu Shastry  
Dialight Optics Laboratory  
Optical Engineer  
Approved Signatory