

# Test Report

Report Number: L21116

Date: Aug 13, 2021

Issued by:

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

Test of one 26k/Medium/Glass Lens/Cool White

Unit manufacturer: Dialight Corporation

Unit model number: [K,V][C,E,F,W][D,U]-[7,R]MB-[5,9]Ex-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 4, 2021 through August 4, 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: L21116

Manufacturer: Dialight Corporation

Product Name: Highbay

Description: 26k/Medium/Glass Lens/Cool White

Model Number: [K,V][C,E,F,W][D,U]-[7,R]MB-[5,9]Ex-xxx-xx

## Report Summary

Sample number L21116

Dialight unit model number [K,V][C,E,F,W][D,U]-[7,R]MB-[5,9]Ex-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:	24052 (lumens)	24374 (lumens)
Electrical Power:	140.9 (W)	140.7 (W)
Luminous Efficacy:	170.7 (lumens/W)	173.2 (lumens/W)

### Electrical Measurements:

Input Power (480VAC): 140.9 (W)  
 Power Factor (480VAC): 0.9669  
 Current ATHD % (480VAC): 12.02  
 Input Power (347VAC): 140.6 (W)  
 Power Factor (347VAC): 0.9840  
 Current ATHD % (347VAC): 11.60

### Color Measurements:

Correlated Color Temperature (CCT): 5108  
 Color Rendering Index (CRI): 73.23  
 Chromaticity Coordinate (x): 0.342  
 Chromaticity Coordinate (y): 0.350  
 Chromaticity Coordinate (u'): 0.210  
 Chromaticity Coordinate (v'): 0.483  
 DUV: 0.0002

## Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21116.

Dialight unit model number [K,V][C,E,F,W][D,U]-[7,R]MB-[5,9]Ex-xxx-xx

### Test Conditions:

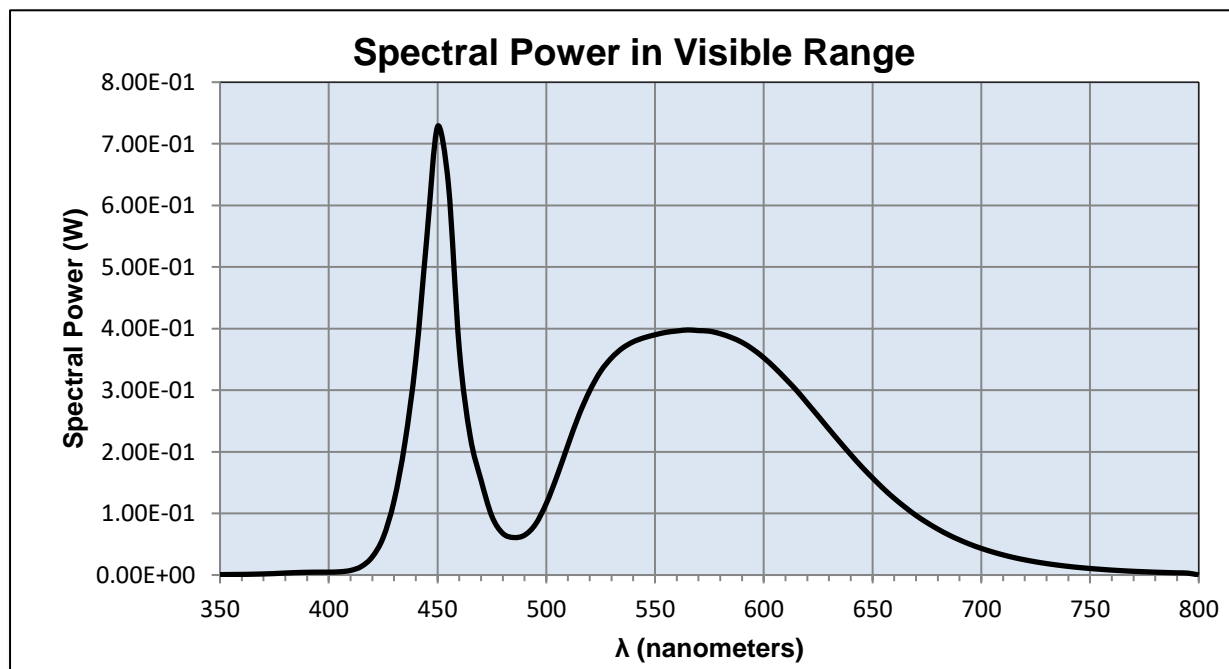
Ambient Temperature:  $25 \pm 1$  (°C)

### Electrical Measurements:

Input Voltage: 480.0 (VAC)  
Input Current: 0.303 (A)  
Input Power: 140.9 (W)  
Input Power Factor: 0.9669  
Current ATHD: 12.02 (%)

### Photometric measurements:

Luminous Flux: 24052.0 (lumens)  
Luminous Efficacy: 170.7 (lumens/W)  
Correlated Color Temperature (CCT): 5108 (K)  
CRI -Ra: 73.23  
CRI -R9: -17.82  
DUV: 0.0002  
CIE Coordinate (x): 0.342  
CIE Coordinate (y): 0.350  
CIE Coordinate (u'): 0.210  
CIE Coordinate (v'): 0.483  
TM30\_Rf: 73.0  
TM30\_Rg: 95.4  
TM30\_Rcs\_hue1: -16.38 %



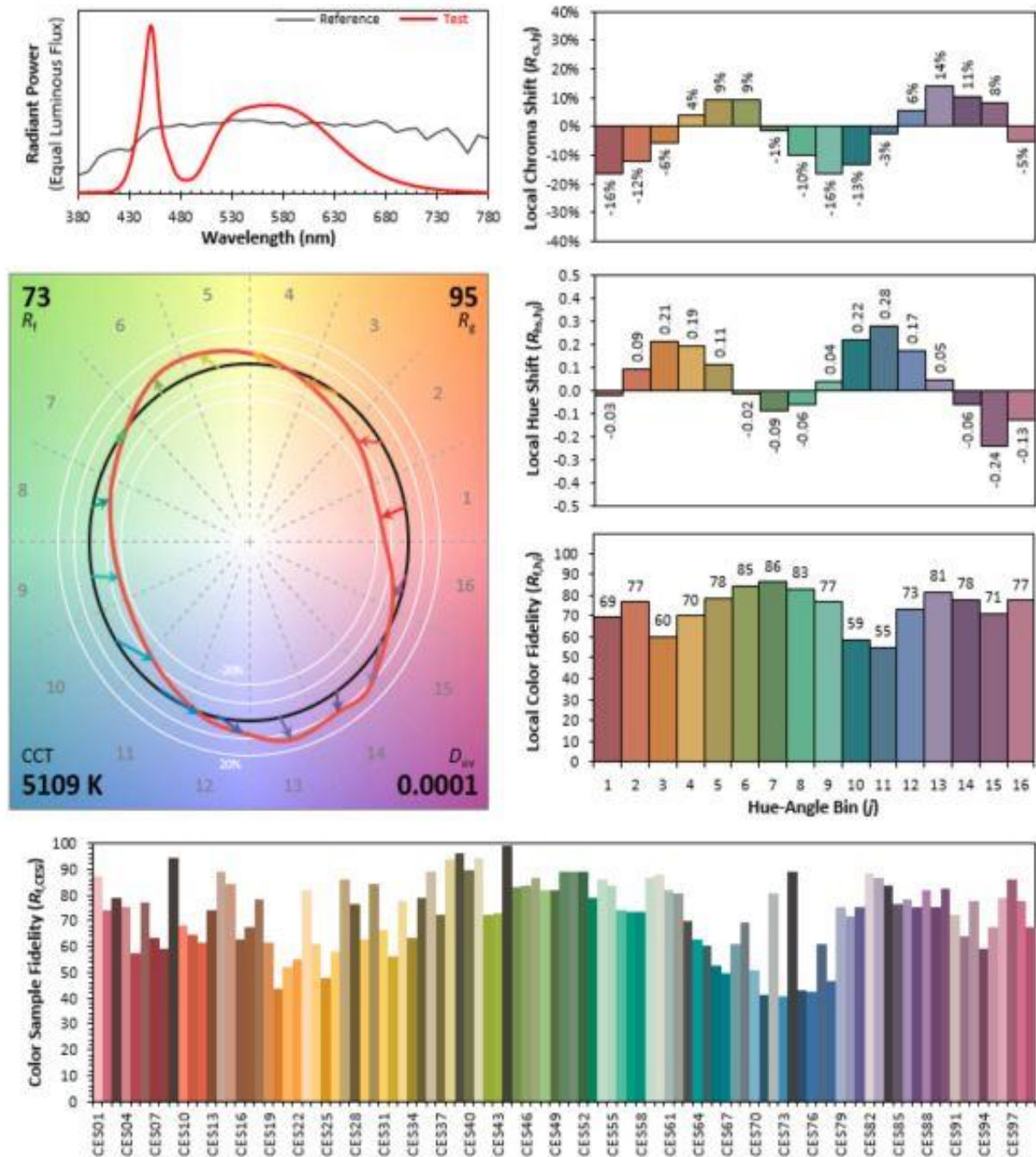
## Test Results: Integrating Sphere

Results continued from previous page.

### Tabulated Spectral Power in Visible Range:

$\lambda(\text{nm})$	$(\text{W/nm})$	$\lambda(\text{nm})$	$(\text{W/nm})$	$\lambda(\text{nm})$	$(\text{W/nm})$	$\lambda(\text{nm})$	$(\text{W/nm})$
350	0.00066	490	0.06466	630	0.23671	770	0.00605
355	0.00085	495	0.08218	635	0.21577	775	0.00529
360	0.00101	500	0.11611	640	0.19542	780	0.00460
365	0.00132	505	0.16123	645	0.17581	785	0.00404
370	0.00175	510	0.21141	650	0.15770	790	0.00353
375	0.00238	515	0.25940	655	0.14026	795	0.00308
380	0.00323	520	0.29924	660	0.12441	800	0.00269
385	0.00397	525	0.33069	665	0.11006		
390	0.00443	530	0.35256	670	0.09673		
395	0.00466	535	0.36828	675	0.08518		
400	0.00468	540	0.37862	680	0.07460		
405	0.00525	545	0.38523	685	0.06517		
410	0.00744	550	0.38997	690	0.05700		
415	0.01393	555	0.39396	695	0.04964		
420	0.02947	560	0.39611	700	0.04326		
425	0.06080	565	0.39783	705	0.03765		
430	0.12023	570	0.39678	710	0.03272		
435	0.21463	575	0.39583	715	0.02834		
440	0.34899	580	0.39175	720	0.02464		
445	0.54459	585	0.38567	725	0.02143		
450	0.72783	590	0.37769	730	0.01860		
455	0.63418	595	0.36645	735	0.01616		
460	0.36676	600	0.35270	740	0.01403		
465	0.22573	605	0.33662	745	0.01219		
470	0.15418	610	0.31865	750	0.01060		
475	0.09531	615	0.29997	755	0.00923		
480	0.06758	620	0.27911	760	0.00801		
485	0.06090	625	0.25810	765	0.00695		

## IES TM-30-18 Color Rendition Report



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

$x$  0.3421  
 $y$  0.3495  
 $u'$  0.2102  
 $v'$  0.4832

CIE 13.3-1995  
(CRI)

$R_a$  73  
 $R_g$  -18



## Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21116.  
Dialight unit model number [K,V][C,E,F,W][D,U]-[7,R]MB-[5,9]Ex-xxx-xx

### Electrical Measurements:

Input Voltage: 480.0 (VAC)  
Input current: 0.30 (A)  
Input Power: 140.70 (W)  
Power Factor: 0.9657

### Photometric measurements:

Absolute Luminous Flux: 24373.6 (lumens)  
Luminous Efficacy: 173.2 (lumens/W)

### Intensity Summary:

#### Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	8866	8869	8858	8876	8866	
5.00	8920	8925	8904	8892	8868	902
15.00	9479	9465	9425	9320	9374	2670
25.00	10517	10408	10310	10136	10249	4789
35.00	10578	10311	10171	9999	10065	6446
45.00	8169	8153	7971	7837	7336	6072
55.00	3862	4090	3894	3801	3040	3256
65.00	881	917	865	840	623	792
75.00	65	67	65	62	54	65
85.00	10	10	9	10	5	5
90.00	1	1	1	1	1	

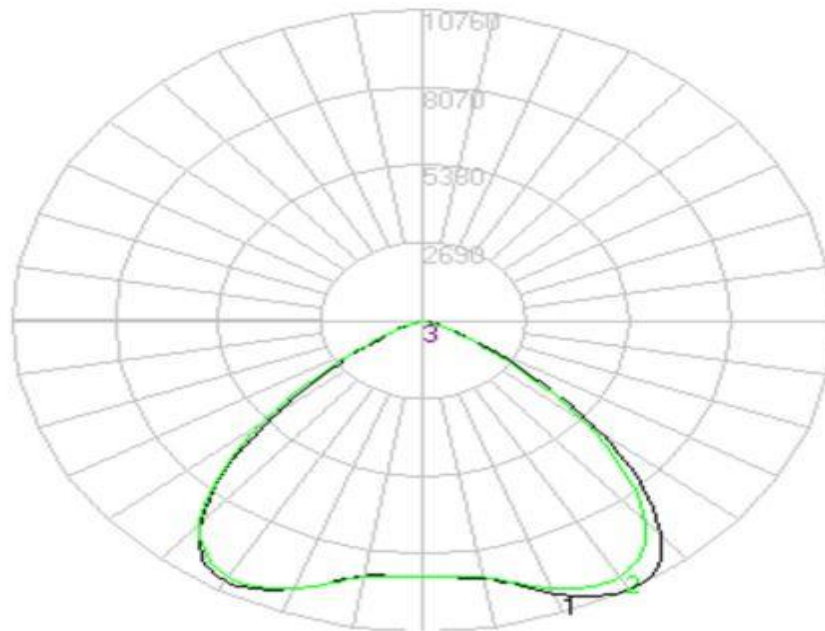
#### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	8275.97	33.95	33.95
0 to 40	14516.05	59.56	59.56
0 to 60	23470.64	96.30	96.30
0 to 90	24373.59	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	24373.59	100.00	100.00

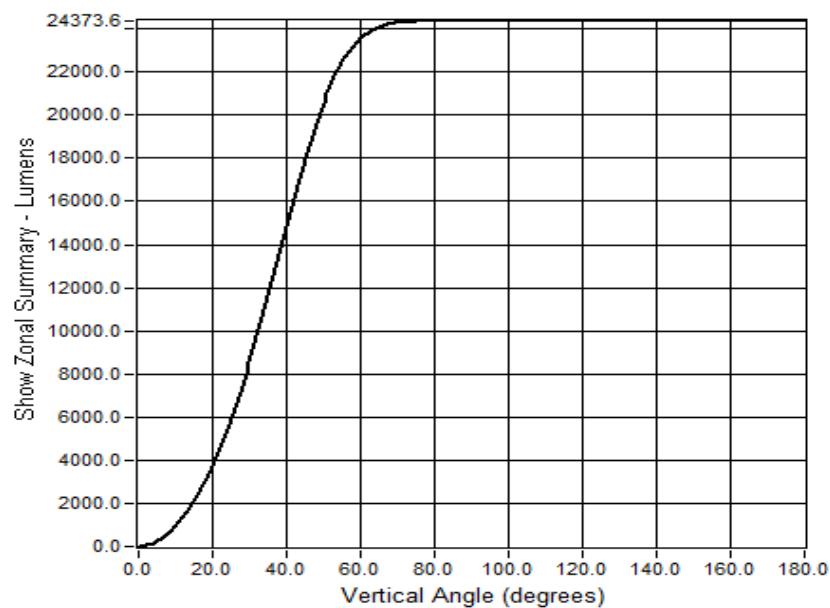
## Test Results: Goniometer

Results continued from previous page.

### Polar Plot:



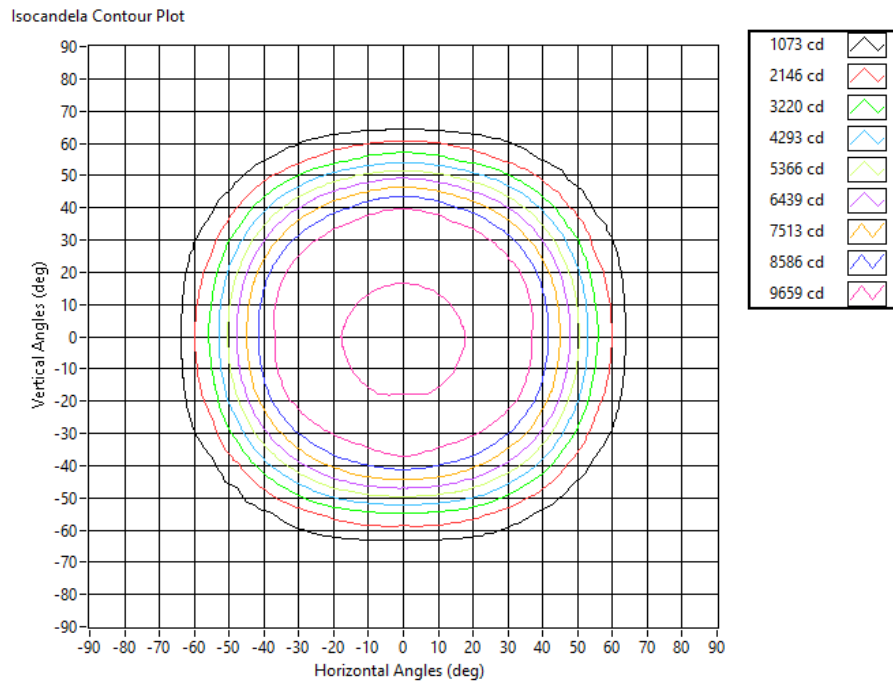
Zonal Flux Graph



## 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	5.20	5.19	2216.8
4	10.40	10.37	554.2
6	15.60	15.56	246.3
8	20.80	20.75	138.5
10	26.00	25.93	88.7
12	31.20	31.12	61.6
14	36.40	36.31	45.2
16	41.60	41.49	34.6
18	46.80	46.68	27.4
20	52.00	51.87	22.2



# 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.  
This report shall not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.  
This report shall not be reproduced, except in full, without the express written permission of Dialight Optics Laboratory.

## 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