

Test Report

Report Number: L21115

Date: Aug 13, 2021

Issued by:

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

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

Unit manufacturer: Dialight Corporation

Unit model number: [K,V][C,E,F,W][D,U]-[7,R]ML-[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: July 27, 2021 through August 5, 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: L21115

Manufacturer: Dialight Corporation

Product Name: Highbay

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

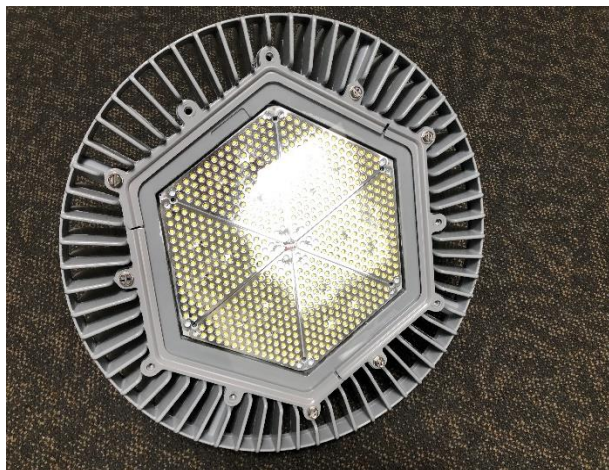
Model Number: [K,V][C,E,F,W][D,U]-[7,R]ML-[5,9]Ex-xxx-xx

Report Summary

Sample number L21115

Dialight unit model number [K,V][C,E,F,W][D,U]-[7,R]ML-[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:	24299 (lumens)	24860 (lumens)
Electrical Power:	140.5 (W)	140.5 (W)
Luminous Efficacy:	173 (lumens/W)	176.9 (lumens/W)

Electrical Measurements:

Input Power (480VAC): 140.5 (W)
 Power Factor (480VAC): 0.9668
 Current ATHD % (480VAC): 12.02
 Input Power (347VAC): 140.2 (W)
 Power Factor (347VAC): 0.9838
 Current ATHD % (347VAC): 11.66

Color Measurements:

Correlated Color Temperature (CCT): 4045
 Color Rendering Index (CRI): 71.98
 Chromaticity Coordinate (x): 0.380
 Chromaticity Coordinate (y): 0.383
 Chromaticity Coordinate (u'): 0.223
 Chromaticity Coordinate (v'): 0.504
 DUV: 0.0029

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21115.

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

Test Conditions:

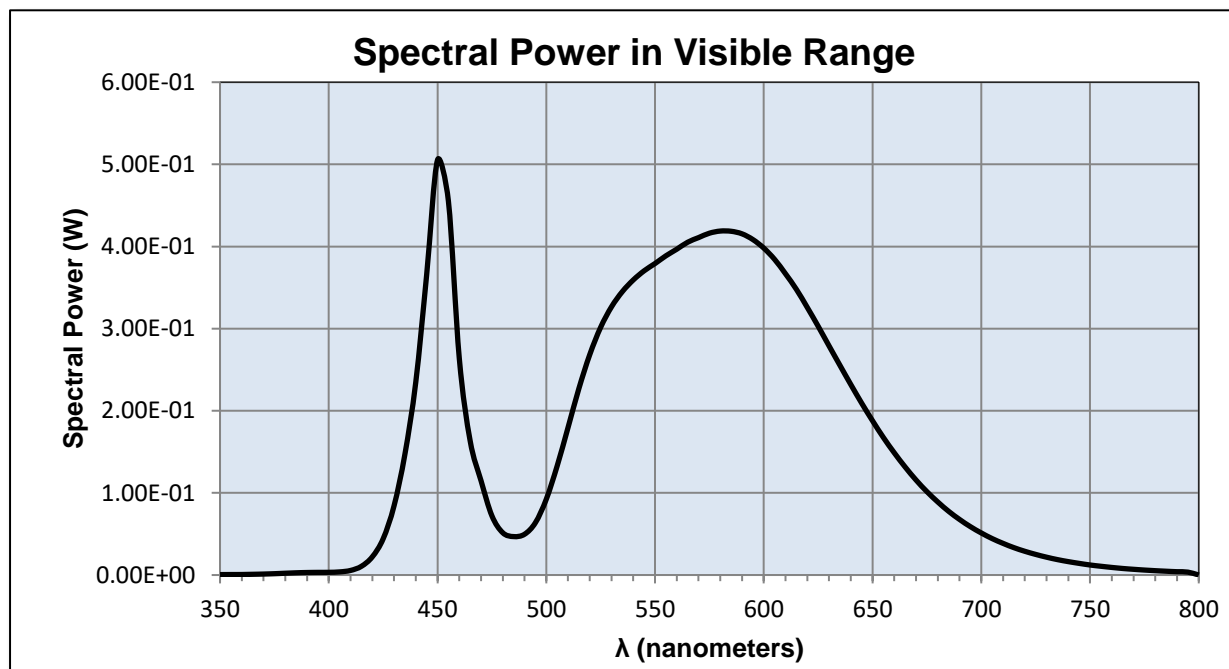
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 480.0 (VAC)
Input Current: 0.302 (A)
Input Power: 140.5 (W)
Input Power Factor: 0.9668
Current ATHD: 12.02 (%)

Photometric measurements:

Luminous Flux: 24298.8 (lumens)
Luminous Efficacy: 173.0 (lumens/W)
Correlated Color Temperature (CCT): 4045 (K)
CRI -Ra: 71.98
CRI -R9: -22.99
DUV: 0.0029
CIE Coordinate (x): 0.380
CIE Coordinate (y): 0.383
CIE Coordinate (u'): 0.223
CIE Coordinate (v'): 0.504
TM30_Rf: 73.9
TM30_Rg: 94.0
TM30_Rcs_hue1: -16.00 %



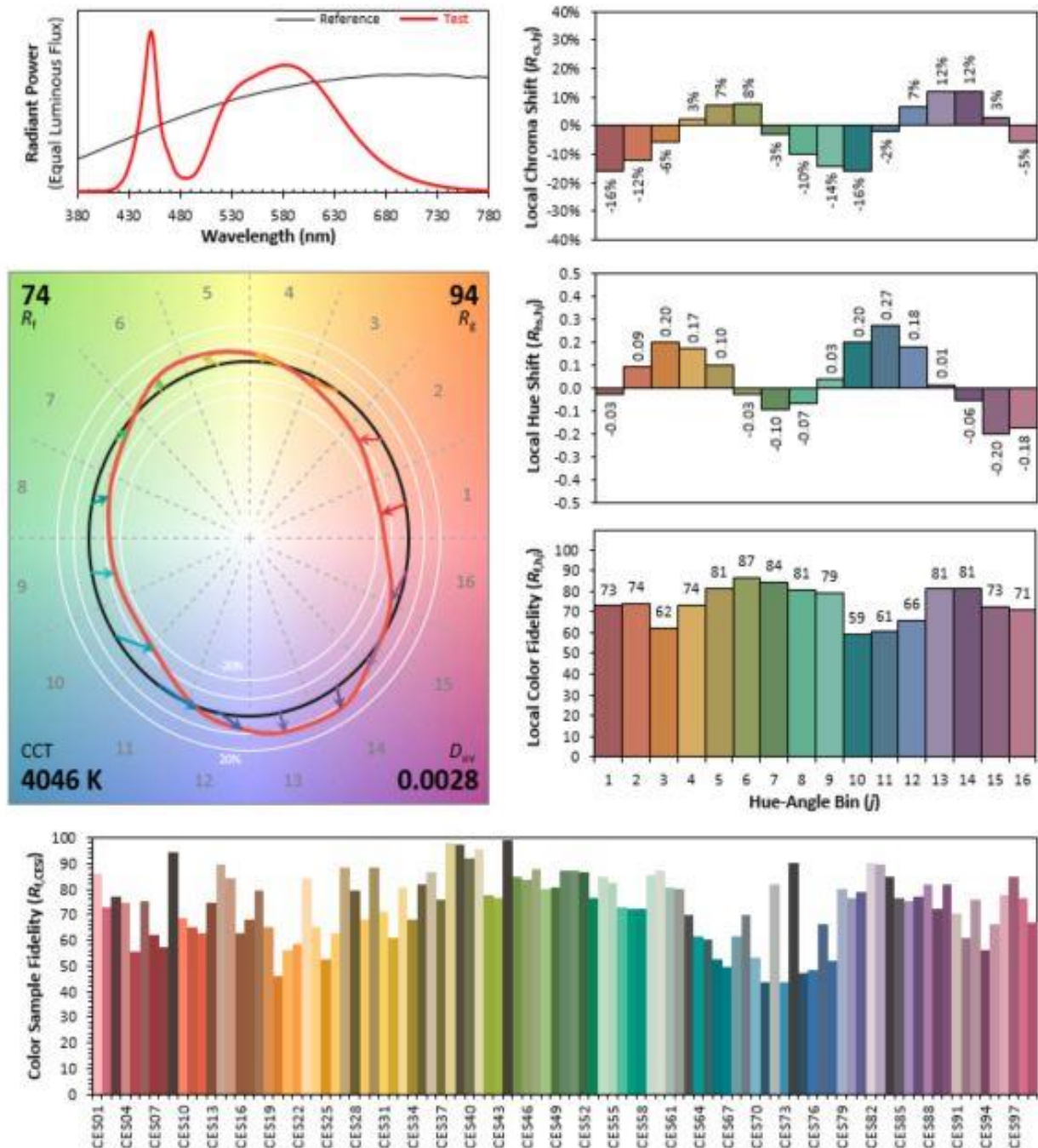
Test Results: Integrating Sphere

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	0.00054	490	0.04964	630	0.27900	770	0.00695
355	0.00060	495	0.06368	635	0.25536	775	0.00607
360	0.00065	500	0.09225	640	0.23197	780	0.00530
365	0.00091	505	0.13278	645	0.20931	785	0.00462
370	0.00119	510	0.17957	650	0.18783	790	0.00403
375	0.00161	515	0.22707	655	0.16741	795	0.00352
380	0.00218	520	0.26838	660	0.14880	800	0.00308
385	0.00270	525	0.30159	665	0.13151		
390	0.00309	530	0.32658	670	0.11569		
395	0.00322	535	0.34515	675	0.10154		
400	0.00331	540	0.35922	680	0.08895		
405	0.00381	545	0.37040	685	0.07754		
410	0.00557	550	0.37924	690	0.06768		
415	0.01062	555	0.38864	695	0.05887		
420	0.02209	560	0.39669	700	0.05123		
425	0.04414	565	0.40518	705	0.04438		
430	0.08420	570	0.41078	710	0.03856		
435	0.14710	575	0.41617	715	0.03333		
440	0.23477	580	0.41877	720	0.02893		
445	0.36548	585	0.41851	725	0.02511		
450	0.50536	590	0.41540	730	0.02174		
455	0.45522	595	0.40842	735	0.01878		
460	0.26382	600	0.39805	740	0.01633		
465	0.16346	605	0.38422	745	0.01417		
470	0.11489	610	0.36673	750	0.01223		
475	0.07211	615	0.34777	755	0.01067		
480	0.05145	620	0.32584	760	0.00925		
485	0.04680	625	0.30289	765	0.00799		

IES TM-30-18 Color Rendition Report



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

x 0.3804
 y 0.3828
 u' 0.2227
 v' 0.5042

CIE 13.3-1995
(CRI)

R_a 72
 R_g -23

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21115.
Dialight unit model number [K,V][C,E,F,W][D,U]-[7,R]ML-[5,9]Ex-xxx-xx

Electrical Measurements:

Input Voltage: 480.0 (VAC)
Input current: 0.30 (A)
Input Power: 140.53 (W)
Power Factor: 0.9655

Photometric measurements:

Absolute Luminous Flux: 24860.3 (lumens)
Luminous Efficacy: 176.9 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	22.50	45.00	67.50	90.00	Lumens
0.00	8910	8902	8903	8895	8891	
5.00	8865	8890	8924	8954	8986	905
15.00	9169	9266	9359	9480	9568	2656
25.00	9623	10009	10251	10388	10866	4739
35.00	9563	10039	10318	10476	11173	6503
45.00	7450	7928	8326	8613	9116	6415
55.00	3344	3714	4231	4559	4808	3672
65.00	623	714	866	1008	1115	862
75.00	36	38	40	43	44	42
85.00	3	3	4	5	5	3
90.00	1	1	1	1	1	

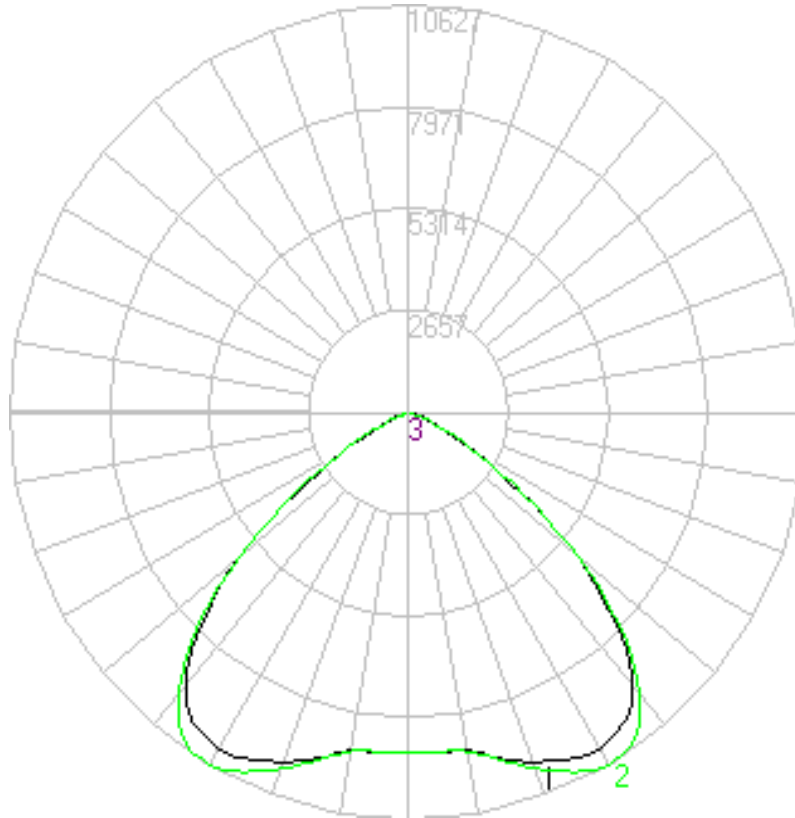
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	8208.93	33.02	33.02
0 to 40	14501.60	58.33	58.33
0 to 60	23942.91	96.31	96.31
0 to 90	24860.26	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	24860.26	100.00	100.00

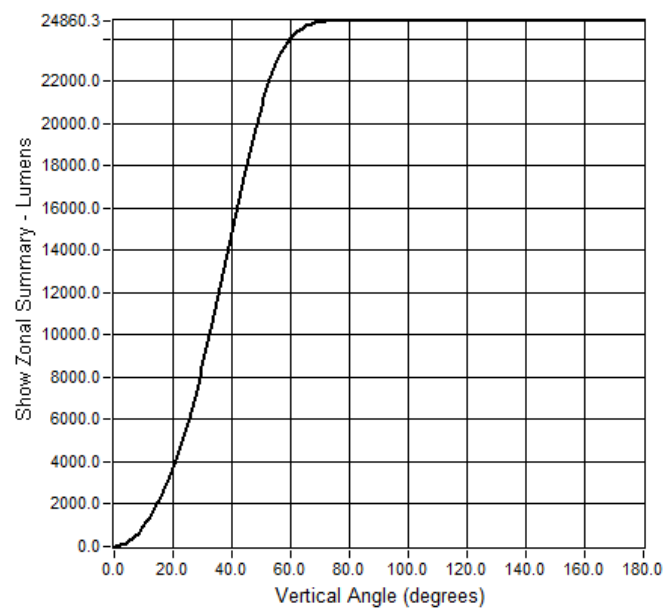
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



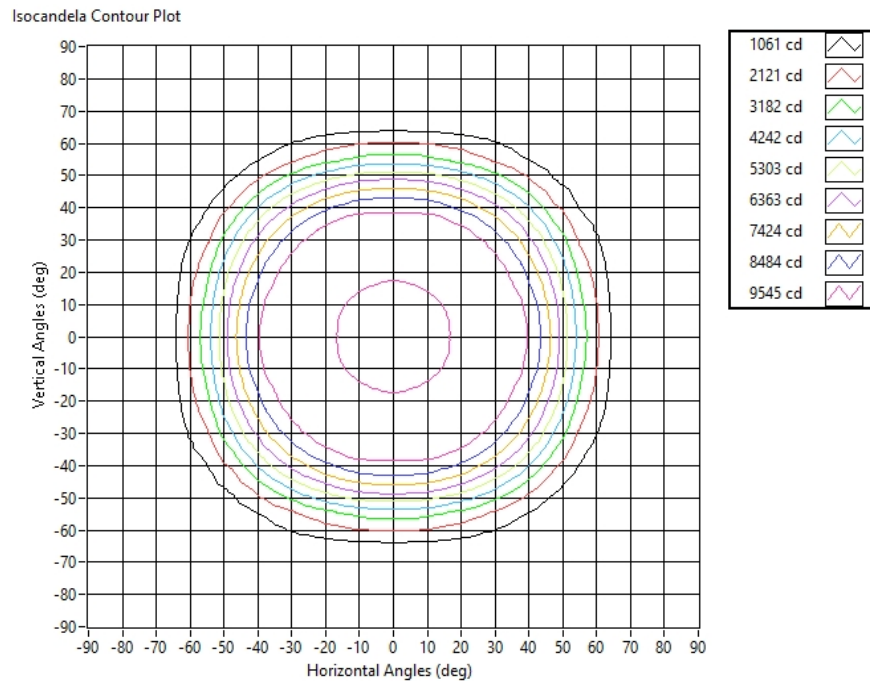
Zonal Flux Graph



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	5.45	5.43	2224.0
4	10.91	10.87	556.0
6	16.36	16.30	247.1
8	21.81	21.74	139.0
10	27.26	27.17	89.0
12	32.72	32.61	61.8
14	38.17	38.04	45.4
16	43.62	43.48	34.7
18	49.07	48.91	27.5
20	54.53	54.35	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.
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 Optical Engineer
 Approved Signatory