Test Report

Report Number: L21118 Date: Aug 13, 2021

Issued by:
Dialight Optics Laboratory
1501 Route 34 South, Farmingdale, NJ 07727

Test of one Ultra Wide/Polycarbonate Lens/Neutral White
Unit manufacturer: Dialight Corporation
Unit model number: [K,V][C,E,F,W][D,U]-[4,V]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:

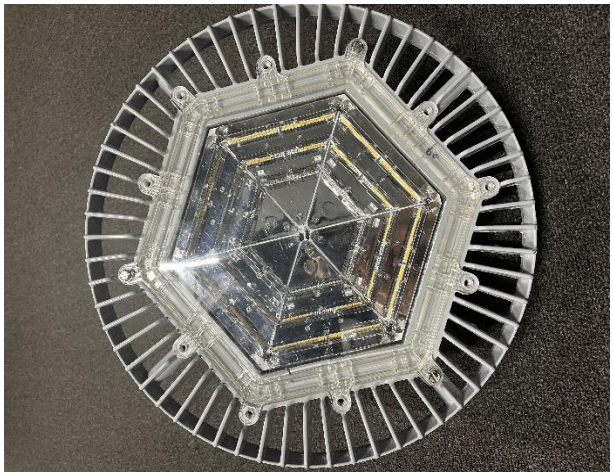
Sample Number: L21118
Manufacturer: Dialight Corporation
Product Name: Highbay
Description: Ultra Wide/Polycarbonate Lens/Neutral White
Model Number: [K,V][C,E,F,W][D,U]-[4,V]UN-[2,8]6x-xxx-xx

Report Summary

Sample number L21118

Dialight unit model number [K,V][C,E,F,W][D,U]-[4,V]UN-[2,8]6x-xxx-xx

Photograph(s) of sample:



*Photographs not to scale. For reference only.

Summary of Results:

	Integrating Sphere		Goniophotometer	
Luminous Flux:	6070	(lumens)	6123	(lumens)
Electrical Power:	43.1	(W)	43.0	(W)
Luminous Efficacy:	141	(lumens/W)	142.5	(lumens/W)

Electrical Measurements:

Input Power (120VAC):	43.1	(W)
Power Factor (120VAC):	0.9894	
Current ATHD % (120VAC):	12.59	
Input Power (277VAC):	42.6	(W)
Power Factor (277VAC):	0.9190	
Current ATHD % (277VAC):	18.05	

Color Measurements:

Correlated Color Temperature (CCT):	4116
Color Rendering Index (CRI):	82.54
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 L21118.
Dialight unit model number [K,V][C,E,F,W][D,U]-[4,V]UN-[2,8]6x-xxx-xx

Test Conditions:

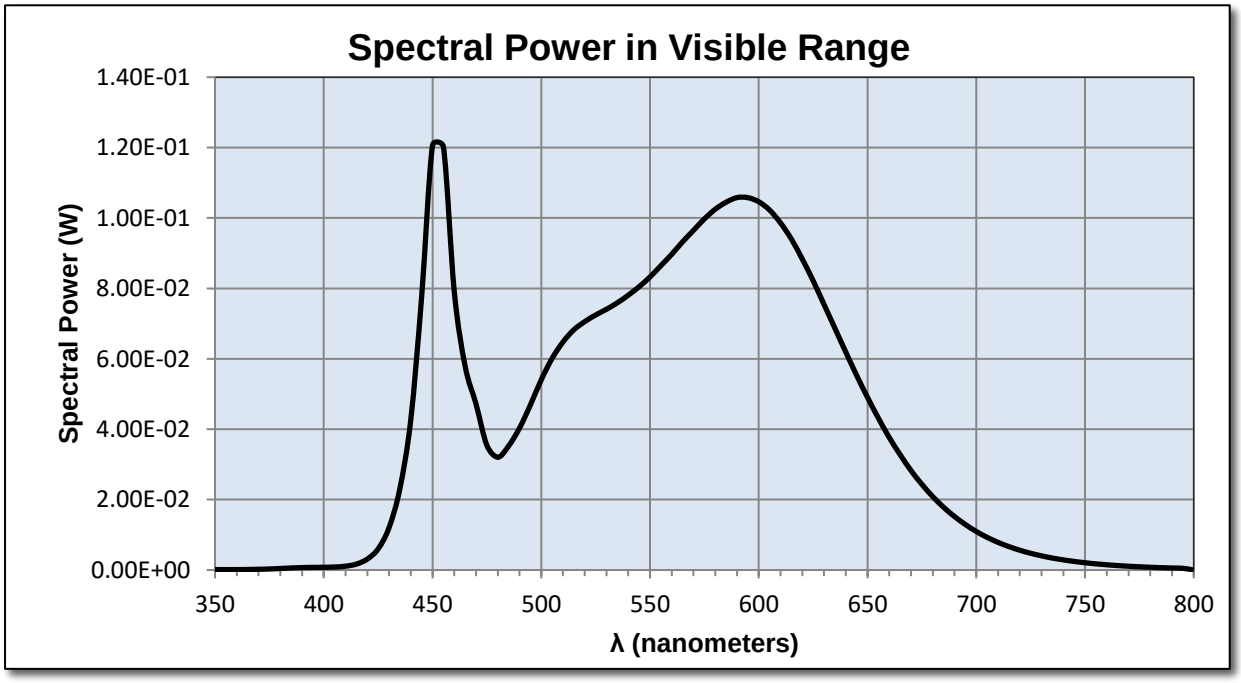
Ambient Temperature:	25 ± 1	(°C)

Electrical Measurements:

Input Voltage:	120.0	(VAC)
Input Current:	0.363	(A)
Input Power:	43.1	(W)
Input Power Factor:	0.9894	
Current ATHD:	12.59	(%)

Photometric measurements:

Luminous Flux:	6070.0	(lumens)
Luminous Efficacy:	141.0	(lumens/W)
Correlated Color Temperature (CCT):	4116	(K)
CRI -Ra:	82.54	
CRI -R9:	1.65	
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:	94.1	
TM30_Rcs_hue1:	-12.88	%



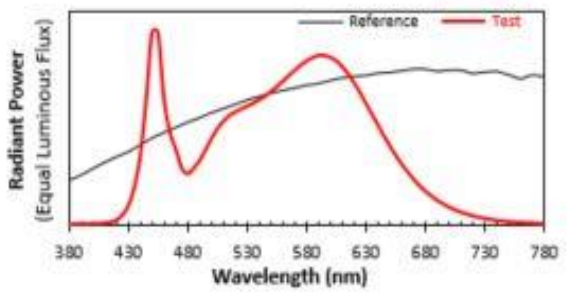
Test Results: Integrating Sphere

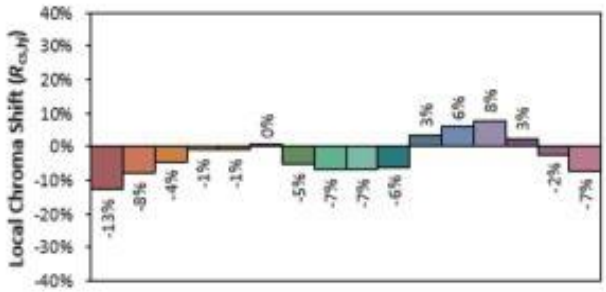
Results continued from previous page.

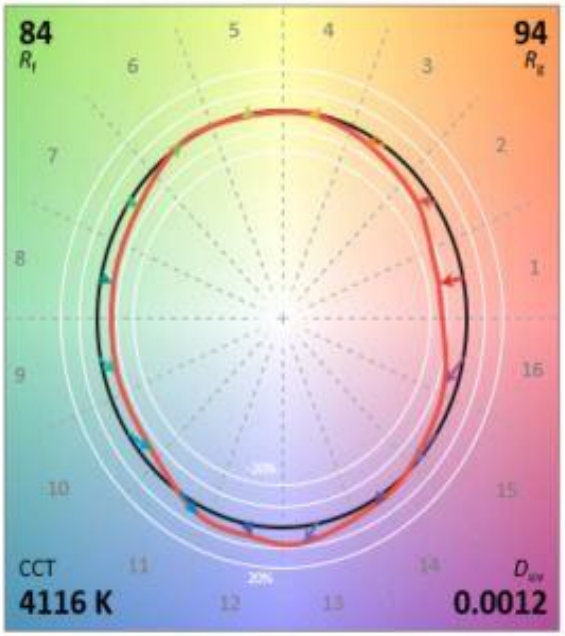
Tabulated Spectral Power in Visible Range:

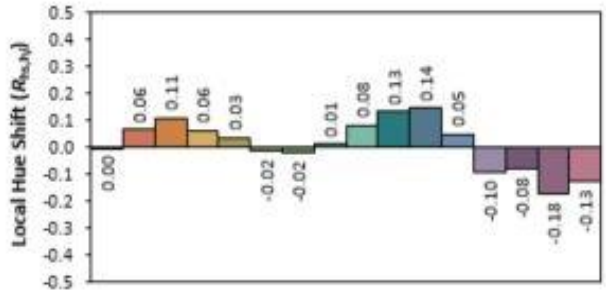
λ(nm)	(W/nm)	λ(nm)	(W/nm)	λ(nm)	(W/nm)	λ(nm)	(W/nm)
350	0.00013	490	0.04032	630	0.07544	770	0.00108
355	0.00012	495	0.04689	635	0.06868	775	0.00092
360	0.00013	500	0.05406	640	0.06192	780	0.00078
365	0.00016	505	0.06015	645	0.05530	785	0.00067
370	0.00022	510	0.06479	650	0.04904	790	0.00057
375	0.00029	515	0.06826	655	0.04314	795	0.00049
380	0.00044	520	0.07057	660	0.03762	800	0.00042
385	0.00058	525	0.07245	665	0.03276		
390	0.00070	530	0.07409	670	0.02825		
395	0.00075	535	0.07592	675	0.02434		
400	0.00078	540	0.07807	680	0.02085		
405	0.00086	545	0.08049	685	0.01782		
410	0.00109	550	0.08327	690	0.01520		
415	0.00169	555	0.08647	695	0.01292		
420	0.00310	560	0.08971	700	0.01095		
425	0.00602	565	0.09326	705	0.00928		
430	0.01203	570	0.09649	710	0.00786		
435	0.02317	575	0.09975	715	0.00665		
440	0.04268	580	0.10249	720	0.00563		
445	0.07765	585	0.10450	725	0.00476		
450	0.12066	590	0.10580	730	0.00403		
455	0.12024	595	0.10578	735	0.00340		
460	0.07905	600	0.10461	740	0.00288		
465	0.05791	605	0.10225	745	0.00244		
470	0.04716	610	0.09860	750	0.00207		
475	0.03541	615	0.09401	755	0.00175		
480	0.03204	620	0.08835	760	0.00149		
485	0.03525	625	0.08218	765	0.00126		

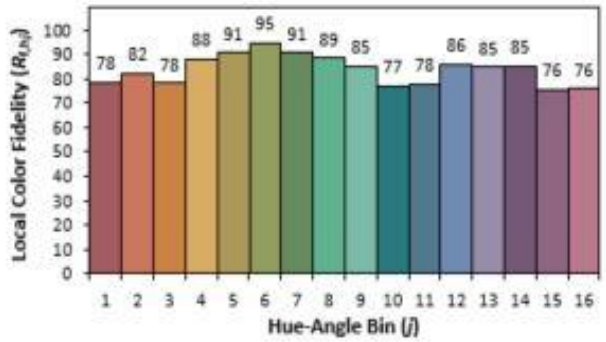
IES TM-30-18 Color Renditon Report

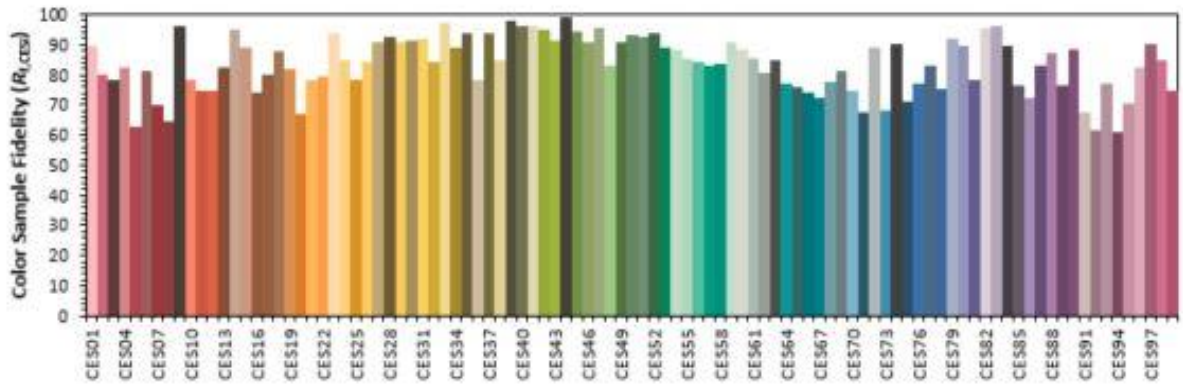












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3762
y	0.3765
u'	0.2224
v'	0.5008

CIE 13.3-1995 (CRI)

R_a	83
R_9	2

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21118.
Dialight unit model number [K,V][C,E,F,W][D,U]-[4,V]UN-[2,8]6x-xxx-xx

Electrical Measurements:

Input Voltage:	120.0	(VAC)
Input current:	0.36	(A)
Input Power:	42.98	(W)
Power Factor:	0.9894	

Photometric measurements:

Absolute Luminous Flux:	6123.2	(lumens)
Luminous Efficacy:	142.5	(lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	892	897	898	896	892	
5.00	930	929	929	959	1008	97
15.00	1162	1187	1231	1152	1134	330
25.00	1125	1216	1223	1164	1097	530
35.00	1129	1230	1218	1175	1053	713
45.00	1337	1443	1438	1386	1297	1051
55.00	1975	1759	1552	1863	1868	1658
65.00	1426	1302	1255	1322	1358	1345
75.00	279	374	525	266	218	318
85.00	14	24	32	17	10	10
90.00	1	1	1	1	1	

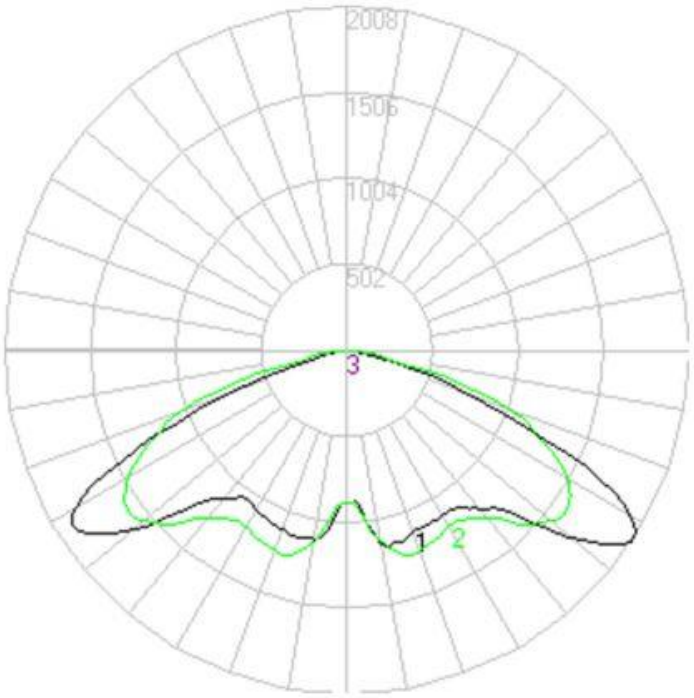
Zonal Lumen Summary

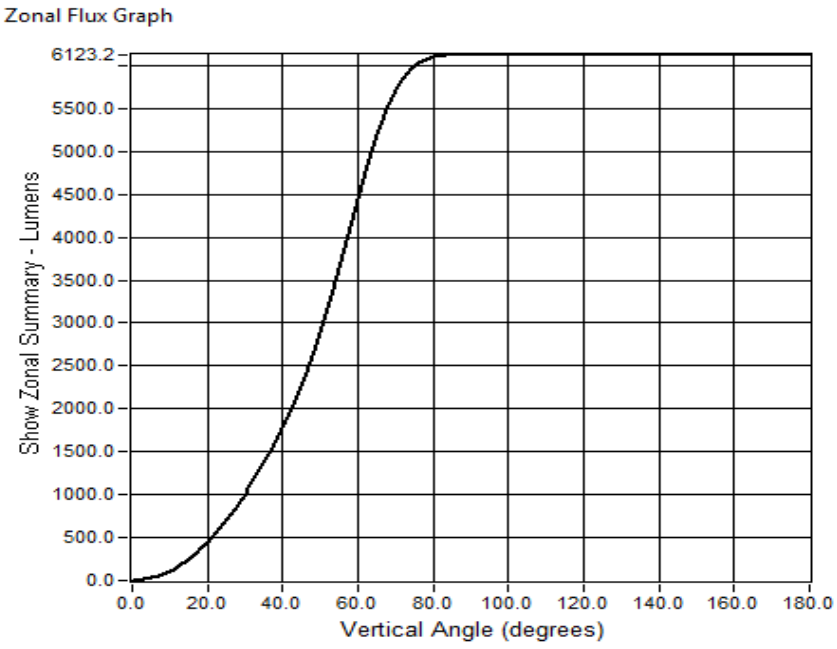
Zone	Lumens	% Lamp	% Fixture
0 to 30	977.92	15.97	15.97
0 to 40	1720.95	28.11	28.11
0 to 60	4367.17	71.32	71.32
0 to 90	6123.23	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	6123.23	100.00	100.00

Test Results: Goniometer

Results continued from previous page.

Polar Plot:

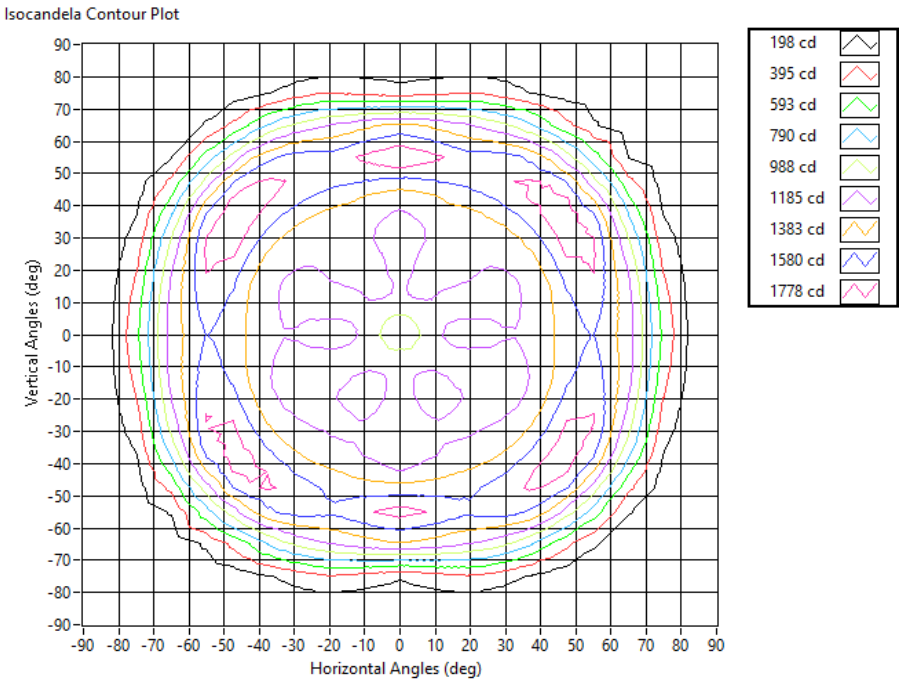




Test Results: Goniometer

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	13.04	15.08	224.1
4	26.09	30.16	56.0
6	39.13	45.25	24.9
8	52.18	60.33	14.0
10	65.22	75.41	9.0
12	78.27	90.49	6.2
14	91.31	105.57	4.6
16	104.36	120.66	3.5
18	117.40	135.74	2.8
20	130.45	150.82	2.2

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 Humdity 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.

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