

Test Report

Report Number: L20067

Date: Jan 14, 2021

Issued by:

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

Test of one High Bay

Unit manufacturer: Dialight Corporation

Unit model number: L[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: September 30, 2020 through October 8, 2020

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: L20067

Manufacturer: Dialight Corporation

Product Name: Vigilant High Bay

Description: High Bay

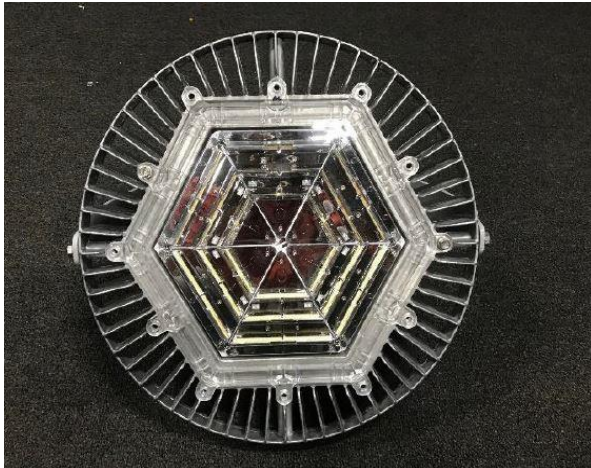
Model Number: L[C,E,F,W][D,U]-[4,V]UN[2,8]6x-xxx-xx

Report Summary

Sample number L20067

Dialight unit model number L[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:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	6431 (lumens)	6311 (lumens)
Electrical Power:	51.2 (W)	50.7 (W)
Luminous Efficacy:	125.5 (lumens/W)	124.5 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 51.2 (W)
 Power Factor (120VAC): 0.991724
 Current ATHD % (120VAC): 10.9755
 Input Power (277VAC): 46.8 (W)
 Power Factor (277VAC): 0.94552
 Current ATHD % (277VAC): 9.2

Color Measurements:

Correlated Color Temperature (CCT): 3971
 Color Rendering Index (CRI): 82.6529
 Chromaticity Coordinate (x): 0.384
 Chromaticity Coordinate (y): 0.384
 Chromaticity Coordinate (u'): 0.224
 Chromaticity Coordinate (v'): 0.337
 DUV: 0.0025

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L20067.

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

Test Conditions:

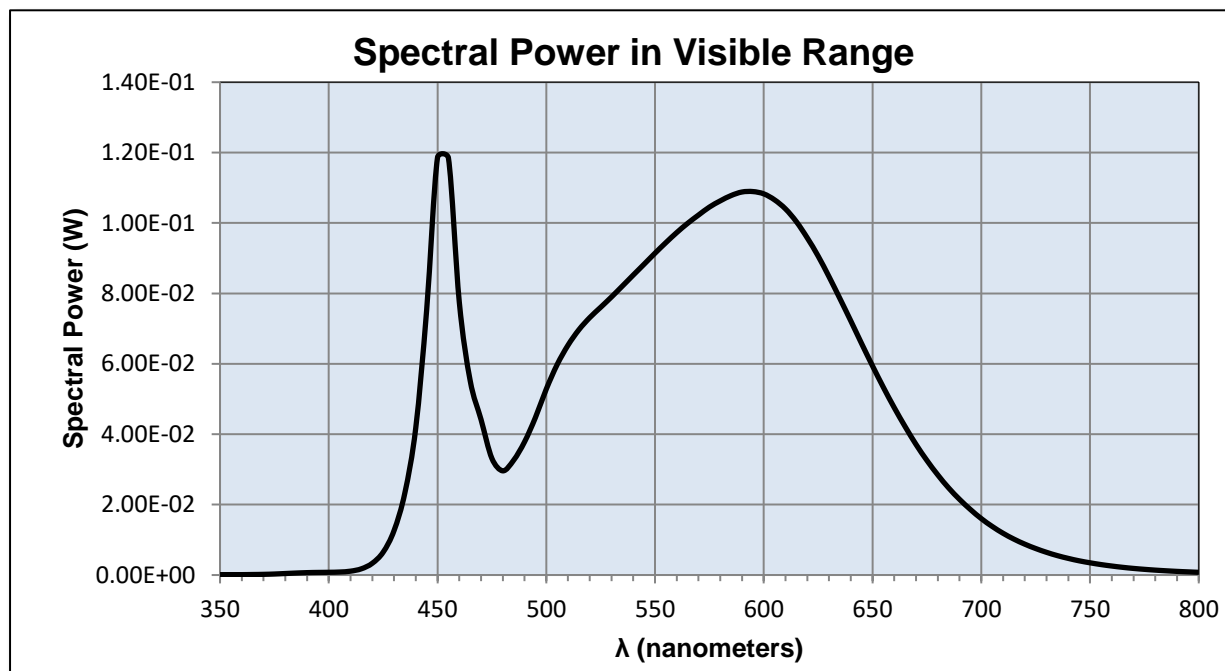
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
 Input Current: 0.431726 (A)
 Input Power: 51.2 (W)
 Input Power Factor: 0.991724
 Current ATHD: 10.9755 (%)

Photometric measurements:

Luminous Flux: 6431 (lumens)
 Luminous Efficacy: 125.5 (lumens/W)
 Correlated Color Temperature (CCT): 3971 (K)
 CRI -Ra: 82.6529
 CRI -R9: 10.2919
 DUV: 0.0025
 CIE Coordinate (x): 0.384
 CIE Coordinate (y): 0.384
 CIE Coordinate (u'): 0.224
 CIE Coordinate (v'): 0.337
 TM30_Rf: 81.9
 TM30_Rg: 94.8
 TM30_Rcs_hue1: -11.63 %



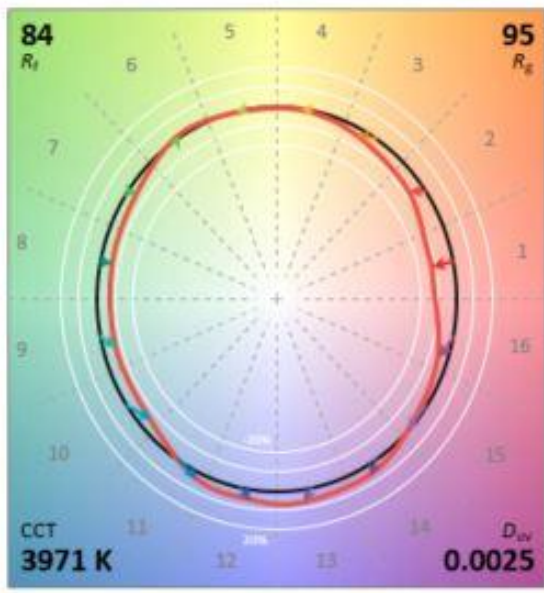
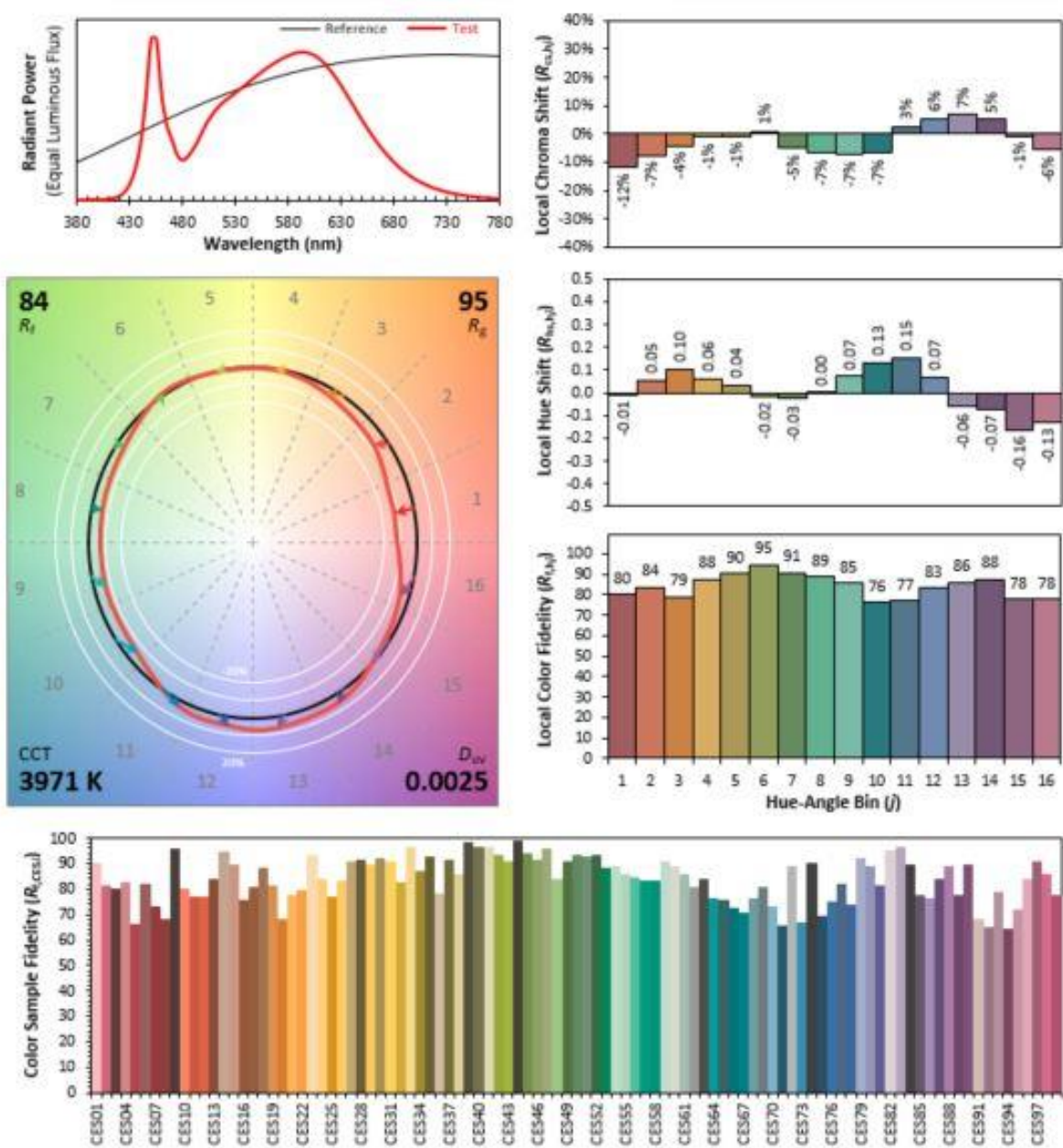
Test Results: Integrating Sphere

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	0.03781	630	0.08474	770	0.00188
355	0.00011	495	0.04472	635	0.07854	775	0.00162
360	0.00011	500	0.05281	640	0.07220	780	0.00139
365	0.00015	505	0.05978	645	0.06573	785	0.00120
370	0.00019	510	0.06530	650	0.05941	790	0.00104
375	0.00029	515	0.06968	655	0.05331	795	0.00090
380	0.00043	520	0.07314	660	0.04754	800	0.00077
385	0.00056	525	0.07606	665	0.04215		
390	0.00068	530	0.07900	670	0.03710		
395	0.00074	535	0.08210	675	0.03256		
400	0.00077	540	0.08522	680	0.02845		
405	0.00085	545	0.08831	685	0.02474		
410	0.00109	550	0.09143	690	0.02150		
415	0.00177	555	0.09443	695	0.01862		
420	0.00334	560	0.09730	700	0.01604		
425	0.00649	565	0.09992	705	0.01381		
430	0.01262	570	0.10227	710	0.01187		
435	0.02339	575	0.10452	715	0.01020		
440	0.04183	580	0.10630	720	0.00877		
445	0.07526	585	0.10782	725	0.00754		
450	0.11863	590	0.10881	730	0.00645		
455	0.11850	595	0.10894	735	0.00552		
460	0.07755	600	0.10828	740	0.00472		
465	0.05527	605	0.10657	745	0.00404		
470	0.04420	610	0.10399	750	0.00347		
475	0.03312	615	0.10037	755	0.00298		
480	0.02959	620	0.09578	760	0.00255		
485	0.03262	625	0.09061	765	0.00219		

IES TM-30-18 Color Rendition Report



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

x 0.3835
y 0.3840
u' 0.2242
v' 0.5052

CIE 13.3-1995 (CRI)	
R _a	83
R _g	10

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L20067.
Dialight unit model number L[C,E,F,W][D,U]-[4,V]UN[2,8]6x-xxx-xx

Electrical Measurements:

Input Voltage: 120 (VAC)
Input current: 0.42709 (A)
Input Power: 50.7 (W)
Power Factor: 0.9867

Photometric measurements:

Absolute Luminous Flux: 6310.5 (lumens)
Luminous Efficacy: 124.5 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	1092	1092	1092	1092	1092	
5.00	1107	1107	1107	1107	1107	112
15.00	1262	1262	1262	1262	1262	358
25.00	1289	1289	1289	1289	1289	597
35.00	1327	1327	1327	1327	1327	834
45.00	1568	1568	1568	1568	1568	1215
55.00	1708	1708	1708	1708	1708	1532
65.00	1281	1281	1281	1281	1281	1271
75.00	319	319	319	319	319	337
85.00	22	22	22	22	22	13
90.00	5	5	5	5	5	

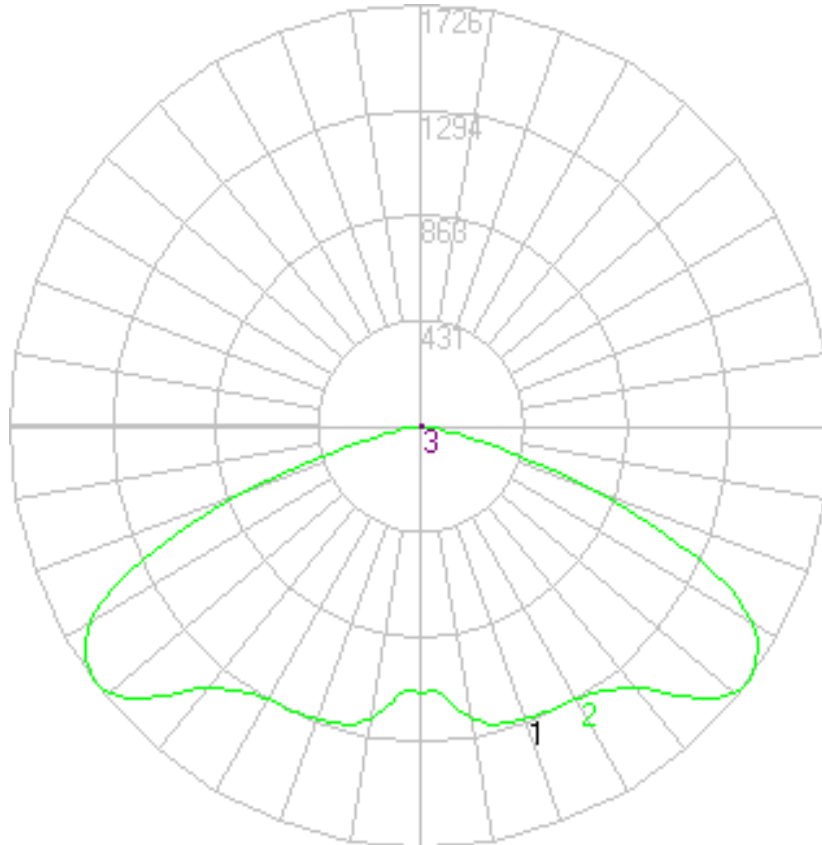
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	1063.70	16.86	16.86
0 to 40	1902.26	30.14	30.14
0 to 60	4632.05	73.40	73.40
0 to 90	6274.49	99.43	99.43
90 to 180	36.04	0.57	0.57
0 to 180	6310.53	100.00	100.00

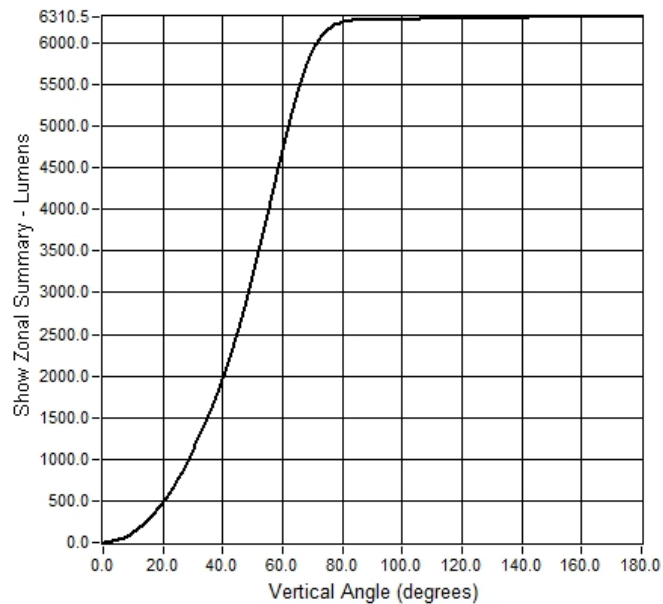
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



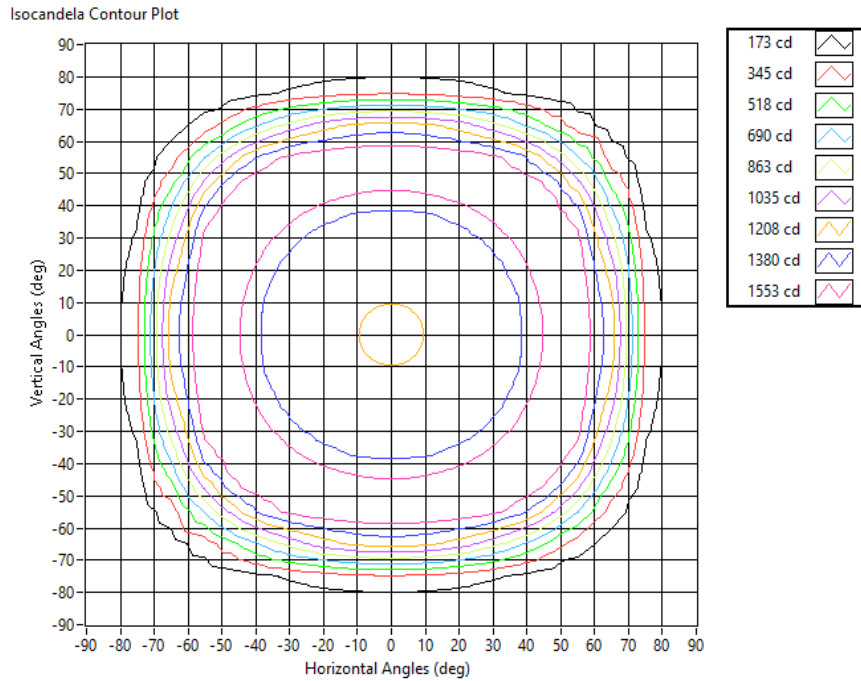
Zonal Flux Graph



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	12.78	12.78	273.1
4	25.56	25.56	68.3
6	38.34	38.34	30.3
8	51.12	51.12	17.1
10	63.90	63.90	10.9
12	76.68	76.68	7.6
14	89.46	89.46	5.6
16	102.24	102.24	4.3
18	115.02	115.02	3.4
20	127.80	127.80	2.7

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 Spectrometer- 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.

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 Optical Engineer
 Approved Signatory