

# Test Report

Report Number: L20095

Date: Jan 5, 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]-[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:** November 18, 2020 through November 18, 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: L20095

Manufacturer: Dialight Corporation

Product Name: High Bay

Description: High Bay

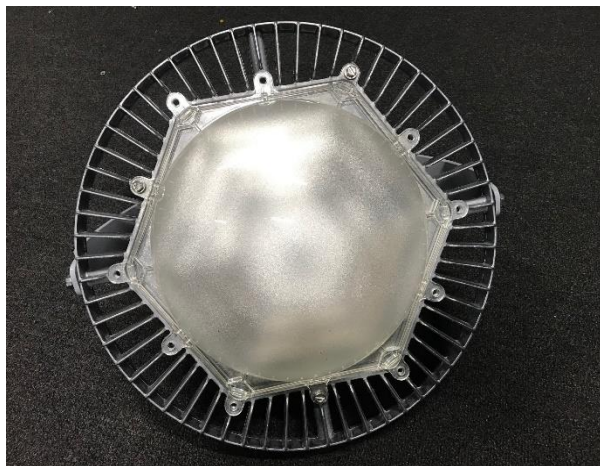
Model Number: L[C,E,F,W][D,U]-[L,Z]UN-[5,9]9x-xxx-xx

## Report Summary

Sample number L20095

Dialight unit model number L[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:	9322 (lumens)	9075 (lumens)
Electrical Power:	78.1 (W)	78.3 (W)
Luminous Efficacy:	119.4 (lumens/W)	115.9 (lumens/W)

### Electrical Measurements:

Input Power (480VAC): 78.1 (W)  
 Power Factor (480VAC): 0.925943  
 Current ATHD % (480VAC): 13.7269  
 Input Power (347VAC): 78.3 (W)  
 Power Factor (347VAC): 0.9686  
 Current ATHD % (347VAC): 14.5

### Color Measurements:

Correlated Color Temperature (CCT): 3883  
 Color Rendering Index (CRI): 84.4016  
 Chromaticity Coordinate (x): 0.386  
 Chromaticity Coordinate (y): 0.380  
 Chromaticity Coordinate (u'): 0.227  
 Chromaticity Coordinate (v'): 0.336  
 DUV: 0.00004

## Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L20095.

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

### Test Conditions:

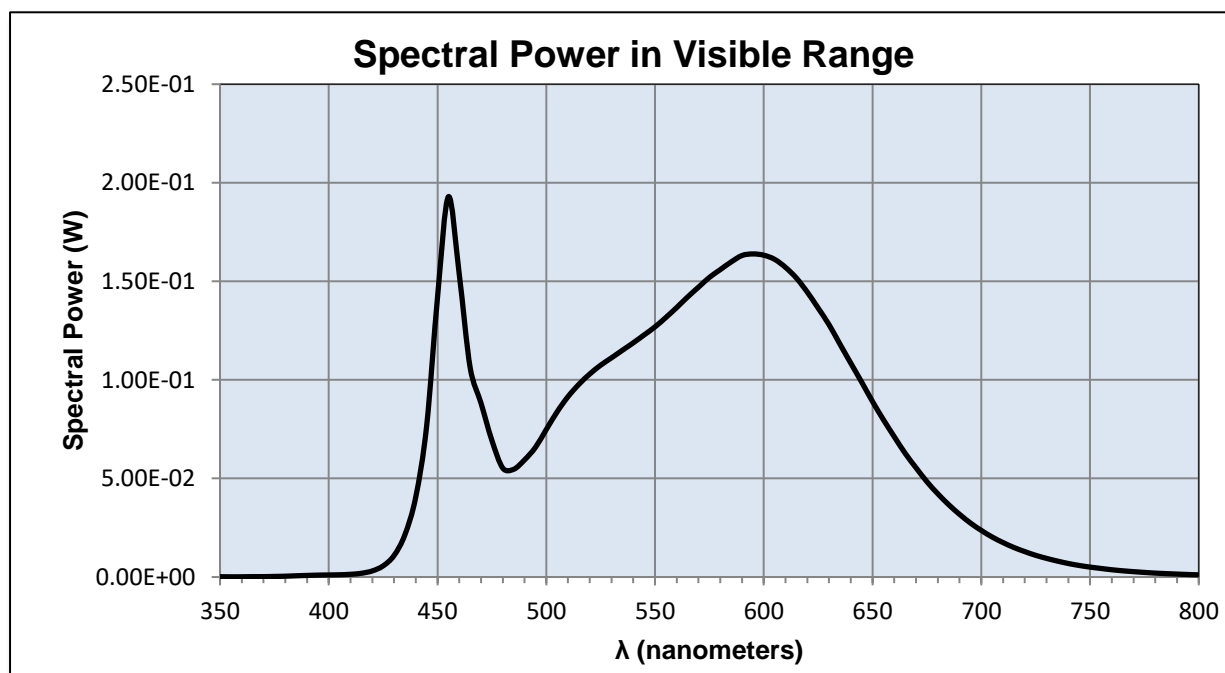
Ambient Temperature: 25 ± 1 (°C)

### Electrical Measurements:

Input Voltage: 480 (VAC)  
Input Current: 0.175655 (A)  
Input Power: 78.1 (W)  
Input Power Factor: 0.925943  
Current ATHD: 13.7269 (%)

### Photometric measurements:

Luminous Flux: 9322.332 (lumens)  
Luminous Efficacy: 119.4 (lumens/W)  
Correlated Color Temperature (CCT): 3883 (K)  
CRI -Ra: 84.4016  
CRI -R9: 15.9775  
DUV: 0.0000  
CIE Coordinate (x): 0.386  
CIE Coordinate (y): 0.380  
CIE Coordinate (u'): 0.227  
CIE Coordinate (v'): 0.336  
TM30\_Rf: 81.8  
TM30\_Rg: 93.7  
TM30\_Rcs\_hue1: -11.30 %



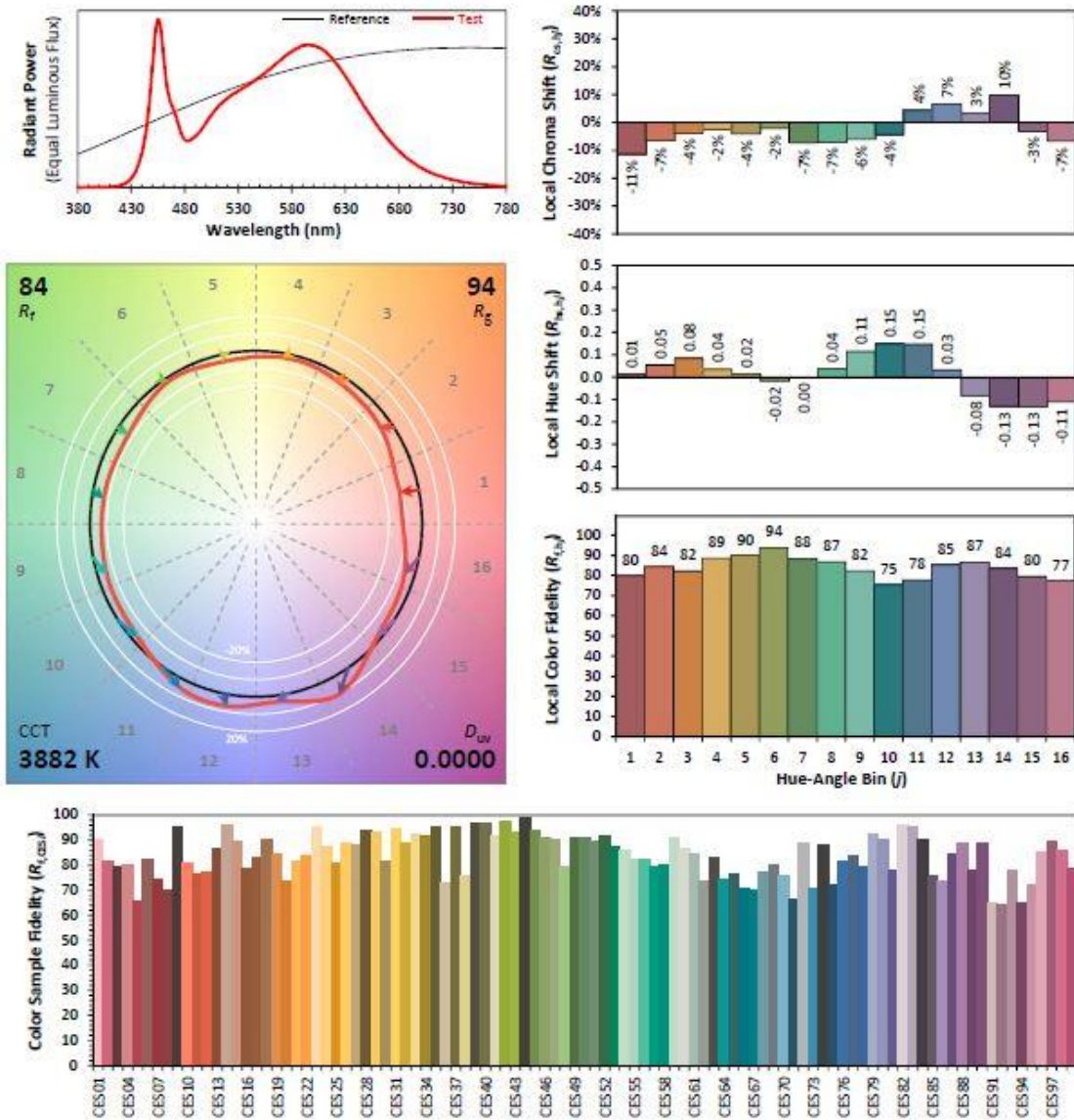
## Test Results: Integrating Sphere

Results continued from previous page.

### Tabulated Spectral Power in Visible Range:

$\lambda$ (nm)	(W/nm)	$\lambda$ (nm)	(W/nm)	$\lambda$ (nm)	(W/nm)	$\lambda$ (nm)	(W/nm)
350	0.00016	490	0.05941	630	0.12802	770	0.00273
355	0.00010	495	0.06573	635	0.11819	775	0.00234
360	0.00013	500	0.07483	640	0.10848	780	0.00199
365	0.00018	505	0.08383	645	0.09890	785	0.00173
370	0.00019	510	0.09152	650	0.08904	790	0.00149
375	0.00030	515	0.09776	655	0.07983	795	0.00128
380	0.00042	520	0.10300	660	0.07118	800	0.00110
385	0.00063	525	0.10745	665	0.06277		
390	0.00081	530	0.11120	670	0.05543		
395	0.00097	535	0.11504	675	0.04837		
400	0.00106	540	0.11880	680	0.04225		
405	0.00115	545	0.12281	685	0.03672		
410	0.00139	550	0.12692	690	0.03182		
415	0.00190	555	0.13168	695	0.02741		
420	0.00309	560	0.13675	700	0.02365		
425	0.00566	565	0.14209	705	0.02030		
430	0.01091	570	0.14704	710	0.01748		
435	0.02146	575	0.15199	715	0.01499		
440	0.04061	580	0.15594	720	0.01290		
445	0.07666	585	0.15984	725	0.01102		
450	0.14192	590	0.16311	730	0.00946		
455	0.19294	595	0.16389	735	0.00808		
460	0.15337	600	0.16326	740	0.00687		
465	0.10625	605	0.16115	745	0.00587		
470	0.08820	610	0.15708	750	0.00505		
475	0.06929	615	0.15165	755	0.00435		
480	0.05526	620	0.14455	760	0.00369		
485	0.05465	625	0.13644	765	0.00316		

**IES TM-30-18 Color Rendition Report**



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

$x$  0.3858  
 $y$  0.3800  
 $u'$  0.2273  
 $v'$  0.5038

CIE 13.3-1995 (CRI)	
$R_a$	84
$R_g$	16

## Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L20095.  
Dialight unit model number L[C,E,F,W][D,U]-[L,Z]UN-[5,9]9x-xxx-xx

### Electrical Measurements:

Input Voltage: 480 (VAC)  
Input current: 0.17608 (A)  
Input Power: 78.3 (W)  
Power Factor: 0.9266

### Photometric measurements:

Absolute Luminous Flux: 9075 (lumens)  
Luminous Efficacy: 115.9 (lumens/W)

### Intensity Summary:

#### Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	1683	1681	1680	1678	1683	
5.00	1683	1682	1686	1689	1694	171
15.00	1703	1699	1697	1718	1709	483
25.00	1718	1713	1699	1718	1705	792
35.00	1781	1759	1742	1737	1748	1104
45.00	1953	1904	1865	1843	1906	1477
55.00	2111	2092	1973	2001	2060	1850
65.00	1843	1959	1881	1916	1831	1854
75.00	909	1140	1299	1171	924	1083
85.00	248	334	432	354	255	204
90.00	136	168	195	174	135	

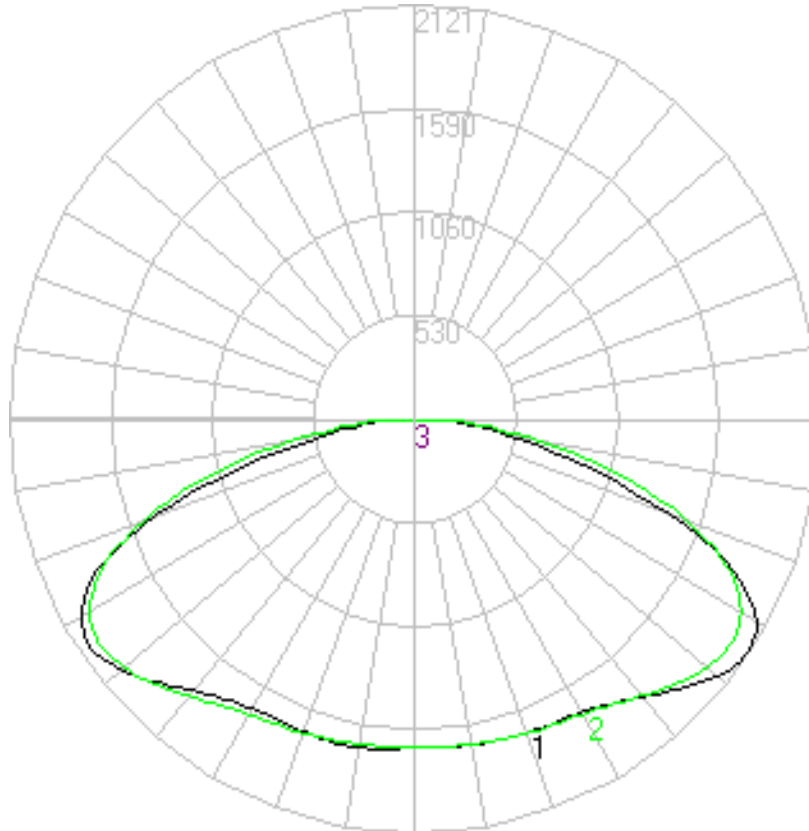
#### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	1443.21	15.90	15.90
0 to 40	2569.25	28.31	28.31
0 to 60	5908.13	65.10	65.10
0 to 90	9075.00	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	9075.00	100.00	100.00

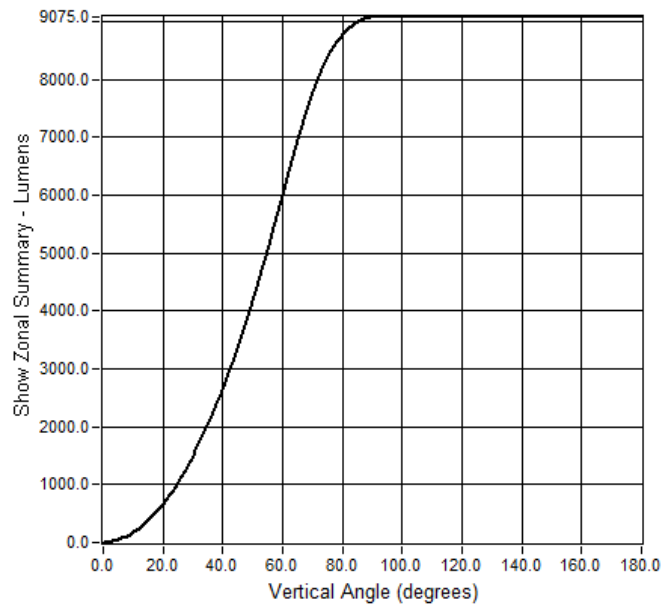
## Test Results: Goniometer

Results continued from previous page.

**Polar Plot:**



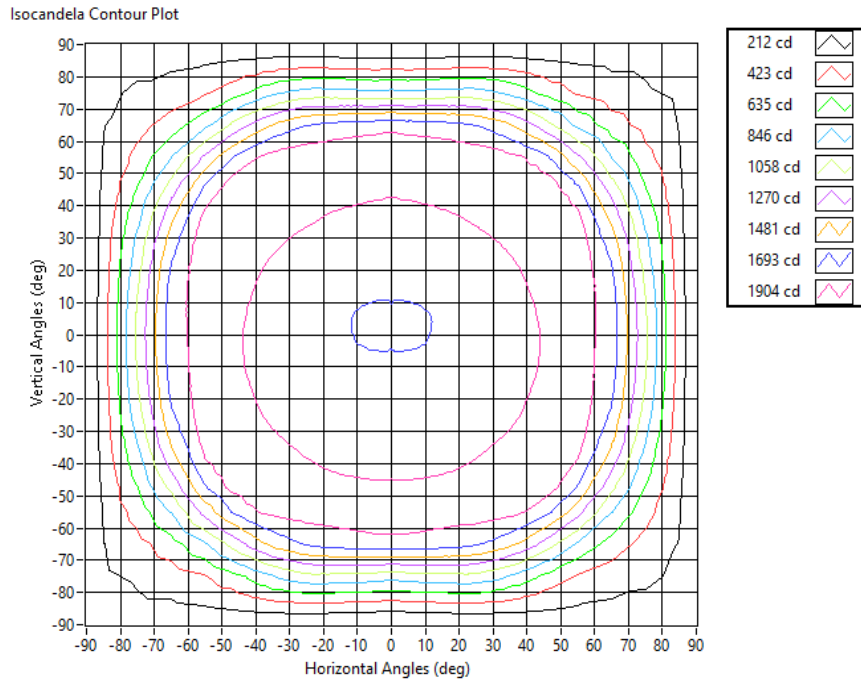
Zonal Flux Graph



## 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	15.16	17.40	420.0
4	30.32	34.80	105.0
6	45.48	52.21	46.7
8	60.64	69.61	26.3
10	75.80	87.01	16.8
12	90.96	104.41	11.7
14	106.12	121.81	8.6
16	121.28	139.22	6.6
18	136.44	156.62	5.2
20	151.60	174.02	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 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