

Test Report

Report Number: L20093

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]-[2,T]UN-[5,9]-9xxx-xxx

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: L20093

Manufacturer: Dialight Corporation

Product Name: High Bay

Description: High Bay

Model Number: L[C,E,F,W][D,U]-[2,T]UN-[5,9]-9xxx-xxx

Report Summary

Sample number L20093

Dialight unit model number L[C,E,F,W][D,U][-2,T]UN-[5,9]-9xxx-xxx

Photograph(s) of sample:



*Photographs not to scale. For reference only.

Summary of Results:

	<u>Integrating Sphere</u>	<u>Goniophotometer</u>
Luminous Flux:	9354 (lumens)	9235 (lumens)
Electrical Power:	78.0 (W)	78.3 (W)
Luminous Efficacy:	119.9 (lumens/W)	117.9 (lumens/W)

Electrical Measurements:

Input Power (480VAC): 78.0 (W)
 Power Factor (480VAC): 0.924974
 Current ATHD % (480VAC): 13.7125
 Input Power (347VAC): 78.2 (W)
 Power Factor (347VAC): 0.9686
 Current ATHD % (347VAC): 14.5

Color Measurements:

Correlated Color Temperature (CCT): 3912
 Color Rendering Index (CRI): 84.5977
 Chromaticity Coordinate (x): 0.384
 Chromaticity Coordinate (y): 0.378
 Chromaticity Coordinate (u'): 0.227
 Chromaticity Coordinate (v'): 0.335
 DUV: -0.0003

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L20093.

Dialight unit model number L[C,E,F,W][D,U]-[2,T]UN-[5,9]-9xxx-xxx

Test Conditions:

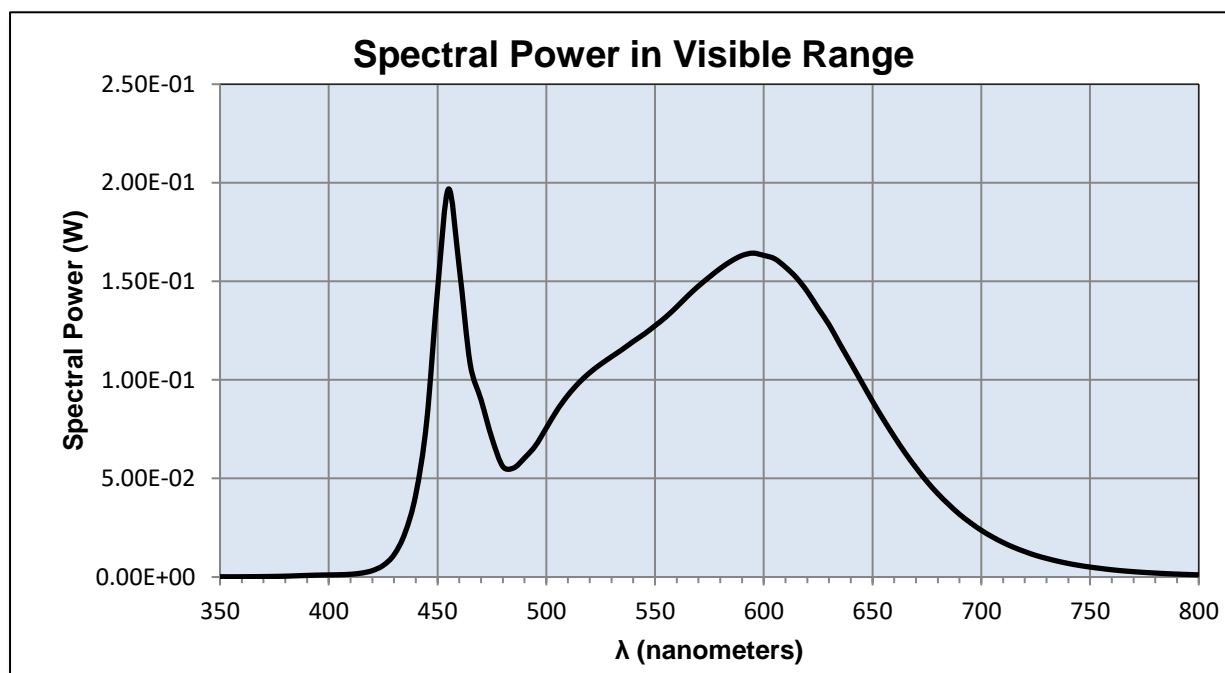
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 480 (VAC)
Input Current: 0.175118 (A)
Input Power: 78.0 (W)
Input Power Factor: 0.924974
Current ATHD: 13.7125 (%)

Photometric measurements:

Luminous Flux: 9353.528 (lumens)
Luminous Efficacy: 119.9 (lumens/W)
Correlated Color Temperature (CCT): 3912 (K)
CRI -Ra: 84.5977
CRI -R9: 16.9217
DUV: -0.0003
CIE Coordinate (x): 0.384
CIE Coordinate (y): 0.378
CIE Coordinate (u'): 0.227
CIE Coordinate (v'): 0.335
TM30_Rf: 81.9
TM30_Rg: 93.8
TM30_Rcs_hue1: -11.20 %



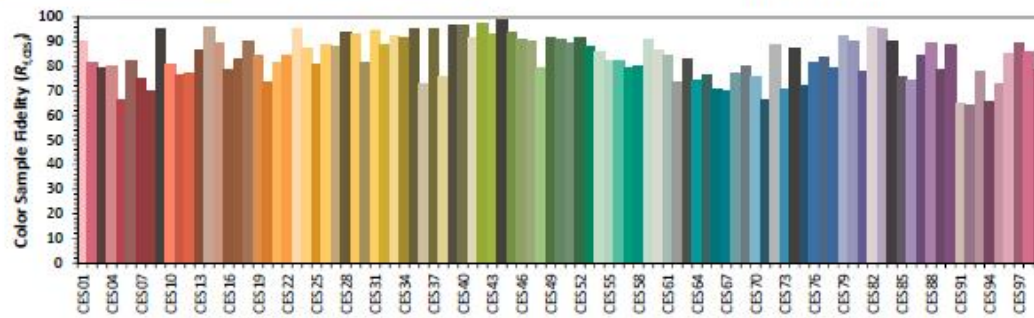
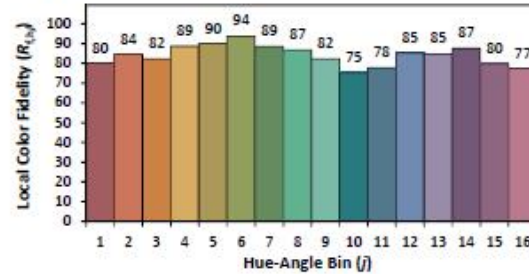
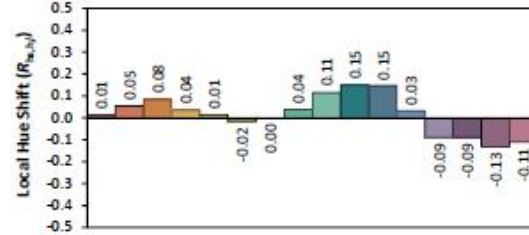
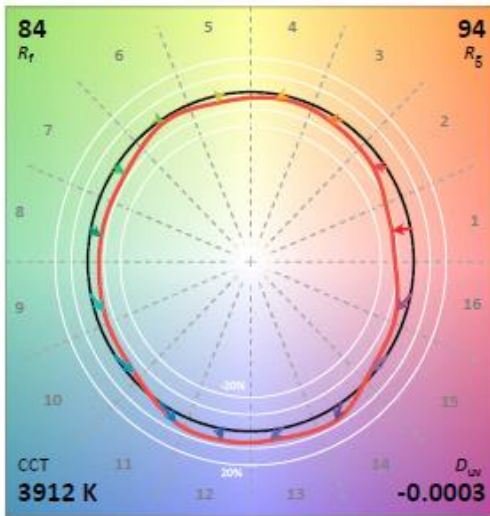
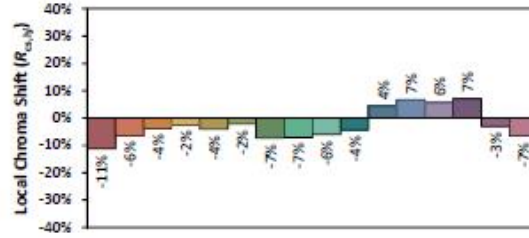
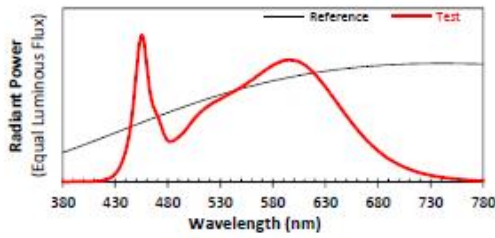
Test Results: Integrating Sphere

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	0.00015	490	0.06039	630	0.12804	770	0.00272
355	0.00011	495	0.06657	635	0.11818	775	0.00233
360	0.00014	500	0.07558	640	0.10854	780	0.00201
365	0.00019	505	0.08471	645	0.09887	785	0.00172
370	0.00024	510	0.09230	650	0.08914	790	0.00148
375	0.00031	515	0.09854	655	0.07994	795	0.00128
380	0.00043	520	0.10367	660	0.07121	800	0.00110
385	0.00062	525	0.10794	665	0.06295		
390	0.00081	530	0.11176	670	0.05545		
395	0.00097	535	0.11550	675	0.04849		
400	0.00107	540	0.11949	680	0.04229		
405	0.00117	545	0.12324	685	0.03685		
410	0.00141	550	0.12748	690	0.03181		
415	0.00199	555	0.13194	695	0.02755		
420	0.00324	560	0.13706	700	0.02371		
425	0.00587	565	0.14255	705	0.02042		
430	0.01130	570	0.14762	710	0.01752		
435	0.02222	575	0.15220	715	0.01503		
440	0.04186	580	0.15654	720	0.01290		
445	0.07877	585	0.16025	725	0.01098		
450	0.14538	590	0.16310	730	0.00943		
455	0.19680	595	0.16430	735	0.00807		
460	0.15688	600	0.16316	740	0.00688		
465	0.10817	605	0.16147	745	0.00589		
470	0.08994	610	0.15719	750	0.00505		
475	0.07048	615	0.15186	755	0.00433		
480	0.05609	620	0.14486	760	0.00369		
485	0.05533	625	0.13631	765	0.00315		

IES TM-30-18 Color Rendition Report



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

x 0.3842
y 0.3784
u' 0.2269
v' 0.5029

CIE 13.3-1995 (CRI)	
R _a	85
R _g	17

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L20093.
Dialight unit model number L[C,E,F,W][D,U]-[2,T]UN-[5,9]-9xxx-xxx

Electrical Measurements:

Input Voltage: 480 (VAC)
Input current: 0.17603 (A)
Input Power: 78.3 (W)
Power Factor: 0.9264

Photometric measurements:

Absolute Luminous Flux: 9234.6 (lumens)
Luminous Efficacy: 117.9 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	1576	1569	1568	1566	1576	
5.00	1595	1587	1606	1618	1639	163
15.00	1844	1858	1883	1863	1836	525
25.00	1816	1903	1944	1900	1789	854
35.00	1841	1933	1925	1900	1772	1161
45.00	2145	2205	2191	2115	2102	1658
55.00	2647	2560	2272	2496	2633	2302
65.00	2022	2075	2084	2073	2009	2024
75.00	333	607	887	583	302	485
85.00	17	35	59	34	17	15
90.00	2	2	4	3	2	

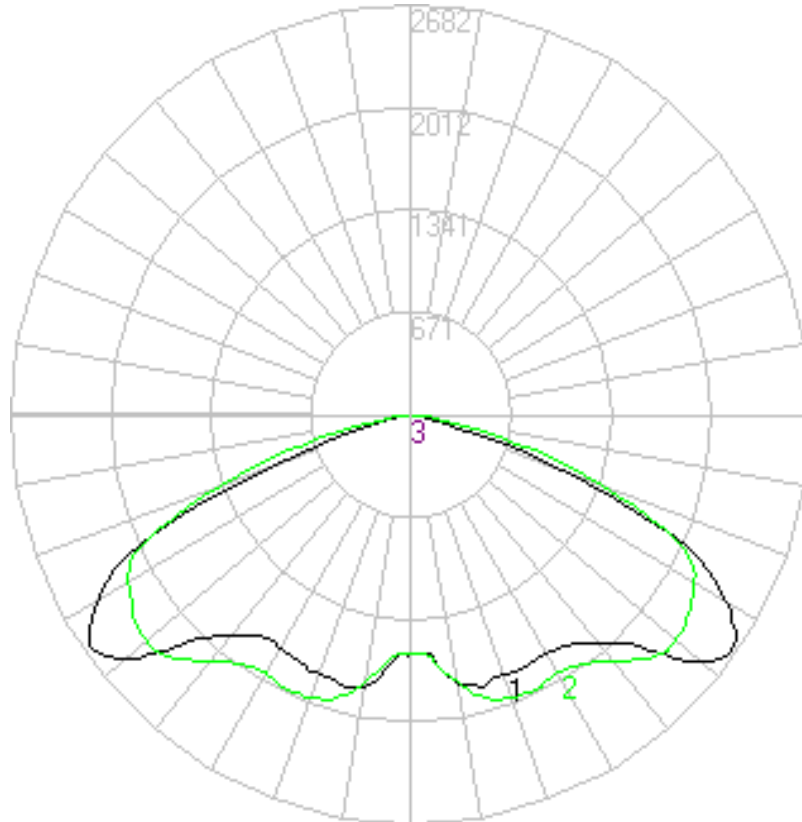
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	1566.50	16.96	16.96
0 to 40	2791.69	30.23	30.23
0 to 60	6751.04	73.11	73.11
0 to 90	9234.59	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	9234.59	100.00	100.00

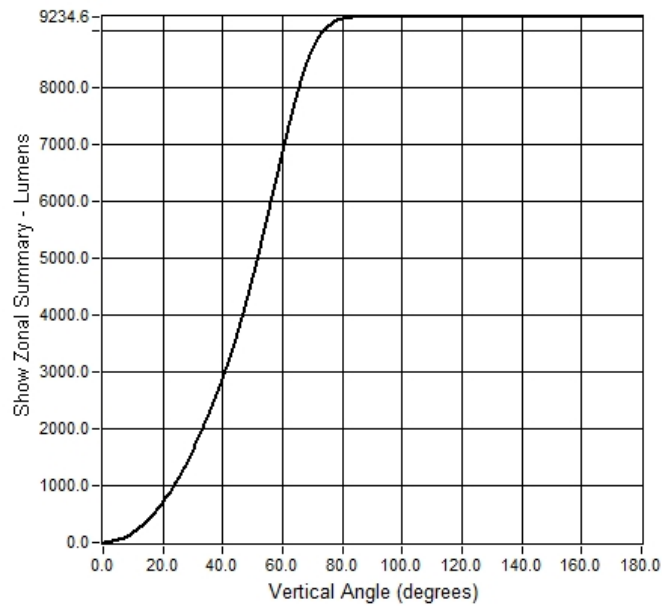
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



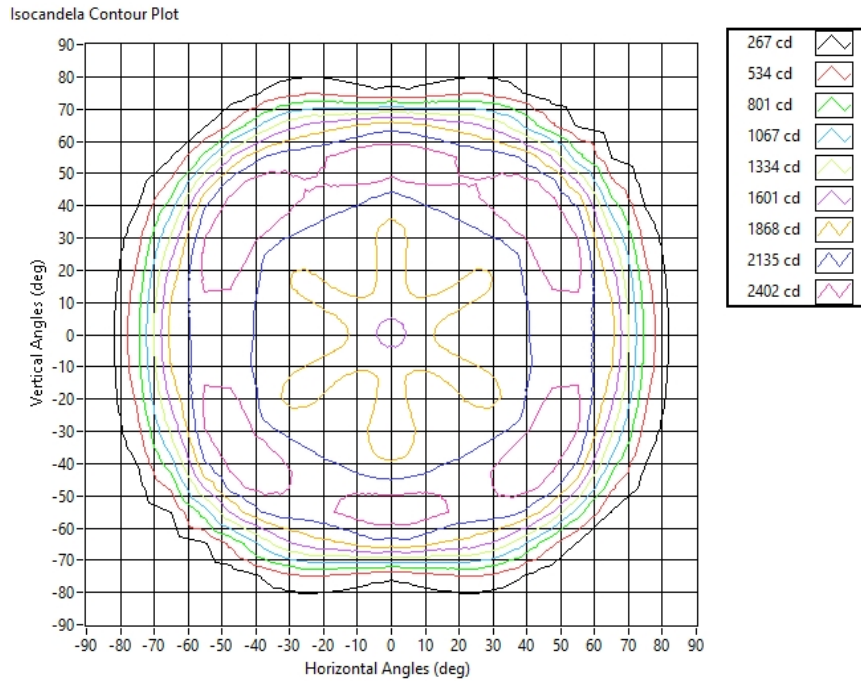
Zonal Flux Graph



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	11.80	14.34	392.3
4	23.60	28.67	98.1
6	35.40	43.01	43.6
8	47.20	57.35	24.5
10	59.00	71.68	15.7
12	70.80	86.02	10.9
14	82.59	100.36	8.0
16	94.39	114.69	6.1
18	106.19	129.03	4.8
20	117.99	143.36	3.9

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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 Dialight Optics Laboratory
 Optical Engineer
 Approved Signatory