

Test Report

Report Number: L20100

Date: Jan 12, 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]Bx-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 19, 2020 through November 20, 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: L20100
Manufacturer: Dialight Corporation
Product Name: High Bay
Description: High Bay
Model Number: L[C,E,F,W][D,U]-[L,Z]UN-[5,9]Bx-xxx-xx

Report Summary

Sample number L20100

Dialight unit model number L[C,E,F,W][D,U]-[L,Z]UN-[5,9]Bx-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:	13157 (lumens)	12882 (lumens)
Electrical Power:	112.3 (W)	112.2 (W)
Luminous Efficacy:	117.2 (lumens/W)	114.9 (lumens/W)

Electrical Measurements:

Input Power (480VAC): 112.3 (W)
 Power Factor (480VAC): 0.956528
 Current ATHD % (480VAC): 12.8594
 Input Power (347VAC): 112.2 (W)
 Power Factor (347VAC): 0.9895
 Current ATHD % (347VAC): 12.6

Color Measurements:

Correlated Color Temperature (CCT): 3908
 Color Rendering Index (CRI): 84.3218
 Chromaticity Coordinate (x): 0.385
 Chromaticity Coordinate (y): 0.379
 Chromaticity Coordinate (u'): 0.227
 Chromaticity Coordinate (v'): 0.336
 DUV: 0.0001

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L20100.

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

Test Conditions:

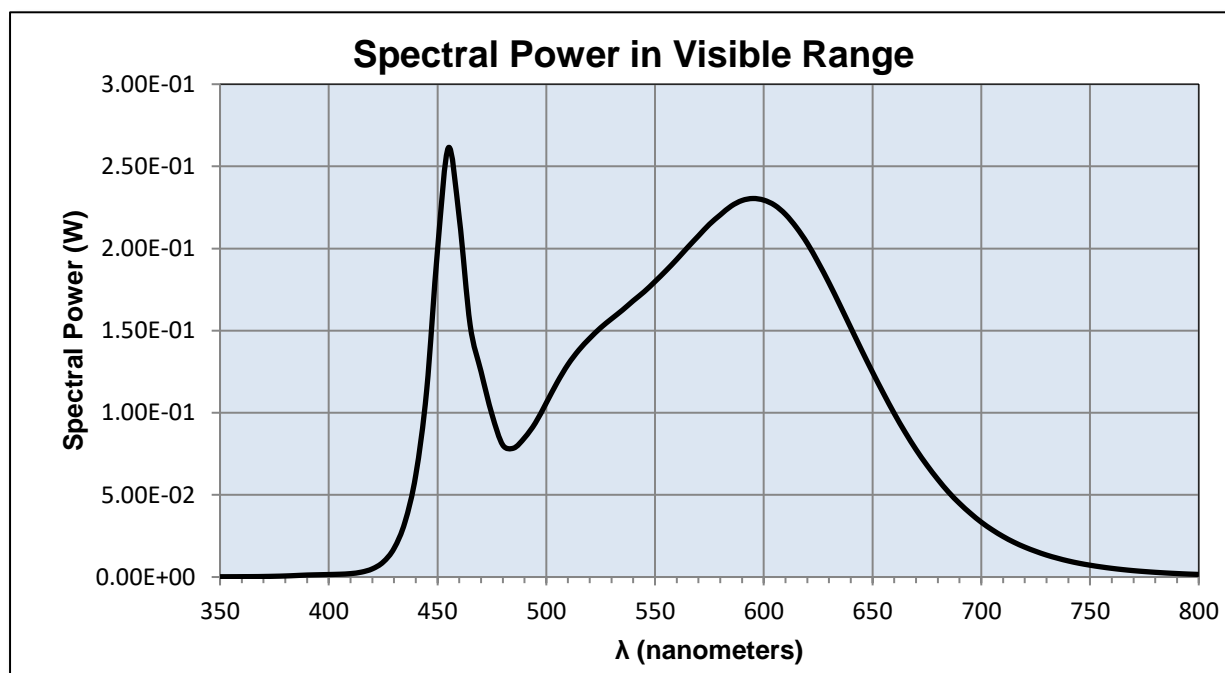
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 480.587 (VAC)
Input Current: 0.244293 (A)
Input Power: 112.3 (W)
Input Power Factor: 0.956528
Current ATHD: 12.8594 (%)

Photometric measurements:

Luminous Flux: 13157.26 (lumens)
Luminous Efficacy: 117.2 (lumens/W)
Correlated Color Temperature (CCT): 3908 (K)
CRI -Ra: 84.3218
CRI -R9: 15.5286
DUV: 0.0001
CIE Coordinate (x): 0.385
CIE Coordinate (y): 0.379
CIE Coordinate (u'): 0.227
CIE Coordinate (v'): 0.336
TM30_Rf: 81.8
TM30_Rg: 93.7
TM30_Rcs_hue1: -11.36 %



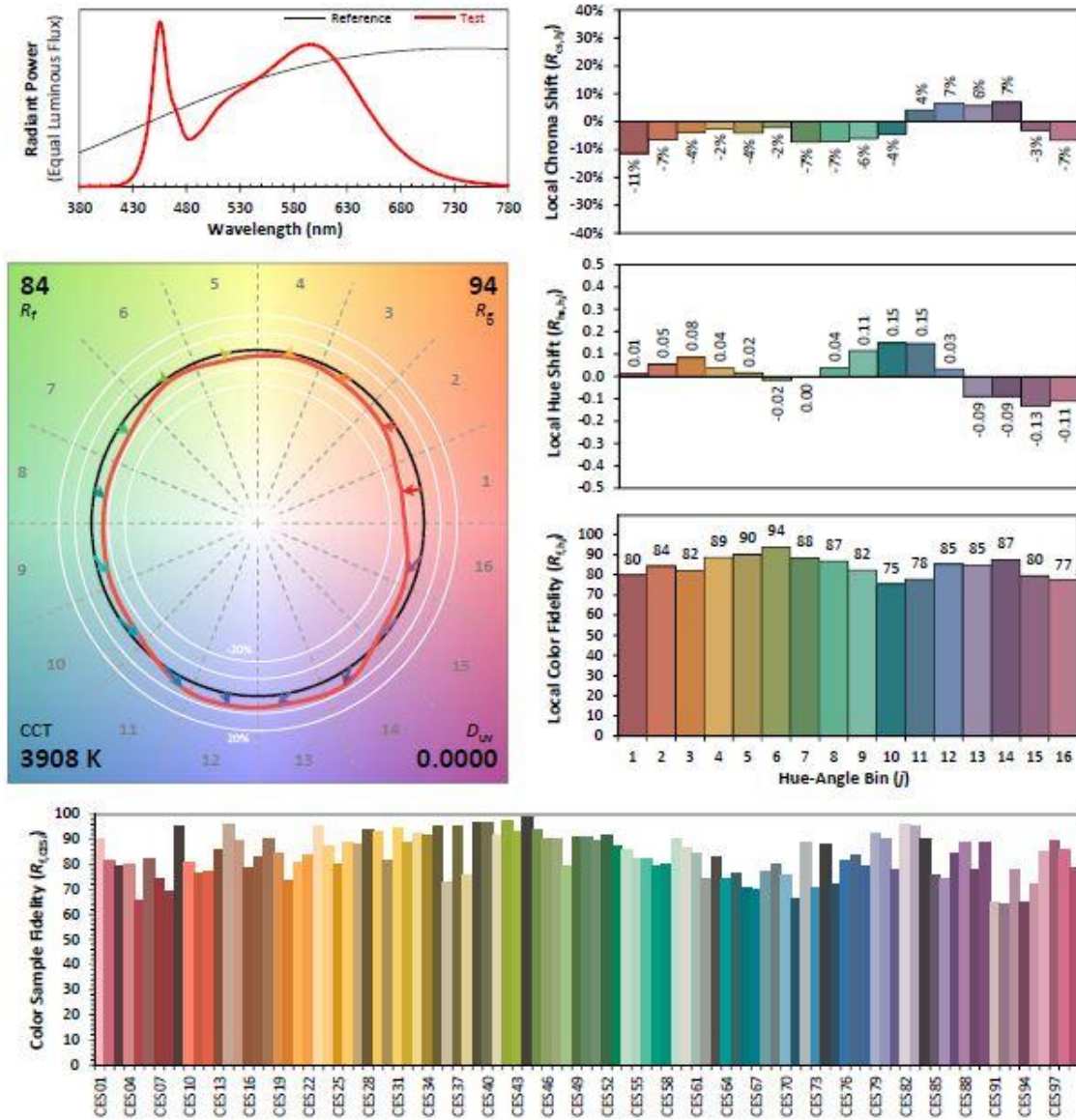
Test Results: Integrating Sphere

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	0.00018	490	0.08473	630	0.17902	770	0.00388
355	0.00018	495	0.09381	635	0.16556	775	0.00334
360	0.00022	500	0.10599	640	0.15176	780	0.00287
365	0.00026	505	0.11843	645	0.13808	785	0.00247
370	0.00033	510	0.12943	650	0.12473	790	0.00212
375	0.00047	515	0.13818	655	0.11188	795	0.00182
380	0.00064	520	0.14535	660	0.09954	800	0.00158
385	0.00092	525	0.15174	665	0.08813		
390	0.00120	530	0.15720	670	0.07761		
395	0.00137	535	0.16247	675	0.06813		
400	0.00152	540	0.16820	680	0.05949		
405	0.00171	545	0.17363	685	0.05162		
410	0.00207	550	0.17989	690	0.04481		
415	0.00299	555	0.18643	695	0.03880		
420	0.00497	560	0.19336	700	0.03339		
425	0.00909	565	0.20069	705	0.02877		
430	0.01742	570	0.20772	710	0.02470		
435	0.03334	575	0.21470	715	0.02120		
440	0.06207	580	0.22044	720	0.01821		
445	0.11350	585	0.22580	725	0.01566		
450	0.19912	590	0.22921	730	0.01338		
455	0.26134	595	0.23043	735	0.01146		
460	0.21841	600	0.22944	740	0.00978		
465	0.15340	605	0.22635	745	0.00838		
470	0.12513	610	0.22075	750	0.00720		
475	0.09911	615	0.21282	755	0.00617		
480	0.08031	620	0.20319	760	0.00528		
485	0.07848	625	0.19158	765	0.00453		

IES TM-30-18 Color Rendition Report



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

x 0.3846
y 0.3794
u' 0.2268
v' 0.5033

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 L20100.
Dialight unit model number L[C,E,F,W][D,U]-[L,Z]UN-[5,9]Bx-xxx-xx

Electrical Measurements:

Input Voltage: 480.14 (VAC)
Input current: 0.24441 (A)
Input Power: 112.2 (W)
Power Factor: 0.9557

Photometric measurements:

Absolute Luminous Flux: 12882 (lumens)
Luminous Efficacy: 114.9 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	2434	2433	2431	2430	2434	
5.00	2435	2438	2435	2437	2441	247
15.00	2433	2427	2435	2464	2463	693
25.00	2423	2410	2425	2491	2495	1135
35.00	2464	2468	2502	2595	2590	1586
45.00	2645	2683	2738	2804	2785	2110
55.00	2876	2933	3011	2944	2921	2622
65.00	2718	2712	2635	2572	2597	2631
75.00	1630	1451	1221	1357	1431	1545
85.00	409	343	280	322	327	232
90.00	168	155	138	146	143	

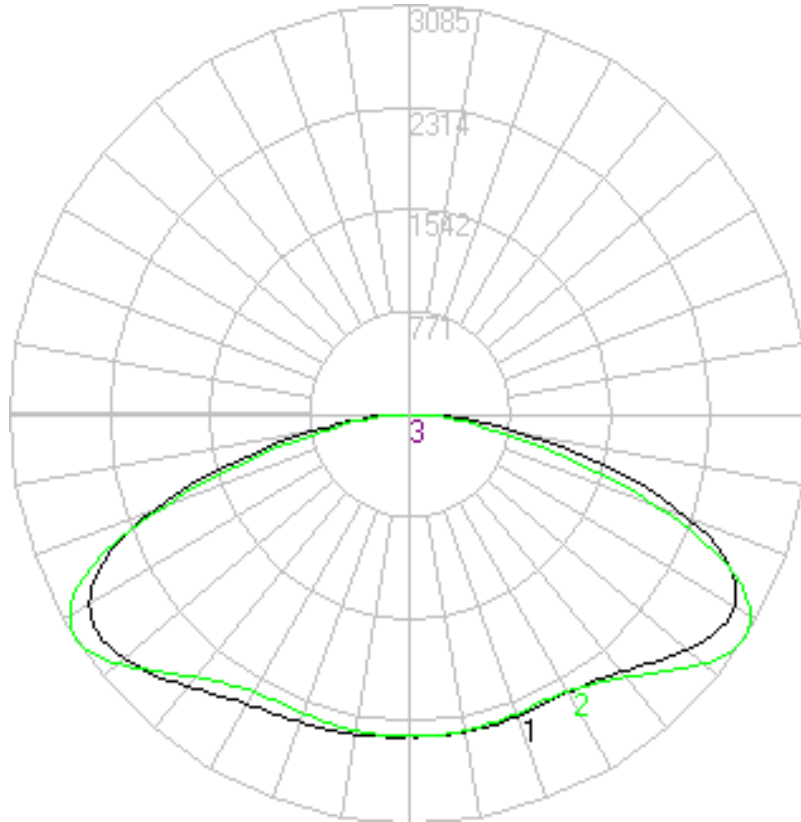
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	2048.71	15.98	15.98
0 to 40	3631.41	28.32	28.32
0 to 60	8415.98	65.64	65.64
0 to 90	12821.97	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	12821.97	100.00	100.00

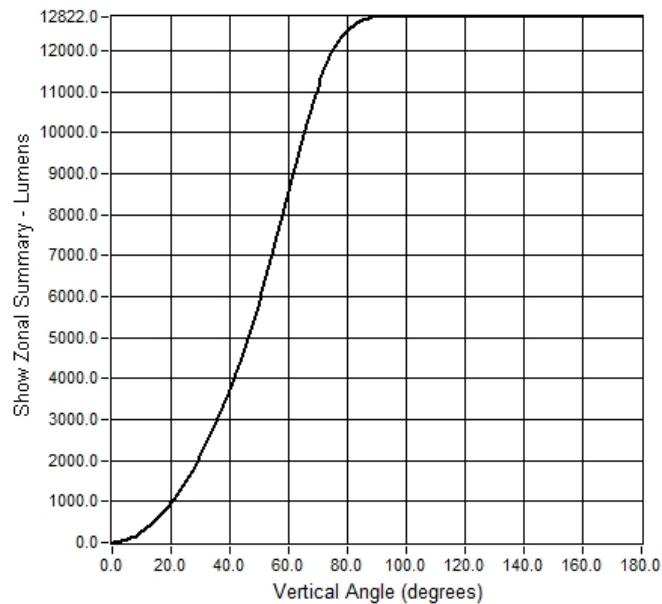
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



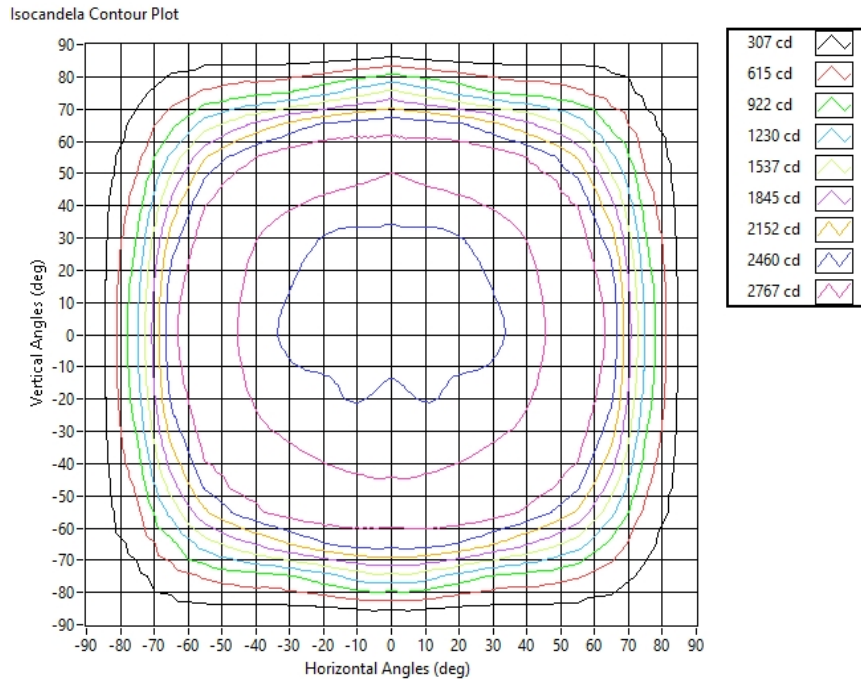
Zonal Flux Graph



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	17.06	14.10	607.8
4	34.12	28.20	152.0
6	51.17	42.31	67.5
8	68.23	56.41	38.0
10	85.29	70.51	24.3
12	102.35	84.61	16.9
14	119.41	98.72	12.4
16	136.46	112.82	9.5
18	153.52	126.92	7.5
20	170.58	141.02	6.1

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