

Test Report

Report Number: L20069

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]-[L,Z]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 7, 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:

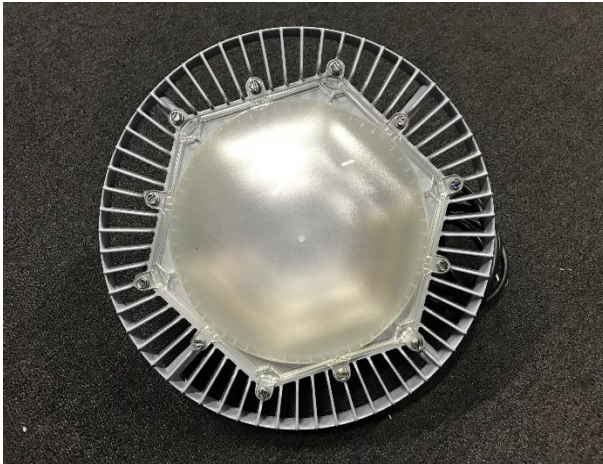
Sample Number: L20069
Manufacturer: Dialight Corporation
Product Name: Reliant High Bay
Description: High Bay
Model Number: L[C,E,F,W][D,U]-[L,Z]UN[2,8]6x-xxx-xx

Report Summary

Sample number L20069

Dialight unit model number L[C,E,F,W][D,U]-[L,Z]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:	6440 (lumens)	6283 (lumens)
Electrical Power:	51.2 (W)	50.7 (W)
Luminous Efficacy:	125.8 (lumens/W)	123.8 (lumens/W)

Electrical Measurements:

Input Power (120VAC): 51.2 (W)
 Power Factor (120VAC): 0.991722
 Current ATHD % (120VAC): 10.9752
 Input Power (277VAC): 46.8 (W)
 Power Factor (277VAC): 0.94552
 Current ATHD % (277VAC): 9.2

Color Measurements:

Correlated Color Temperature (CCT): 3966
 Color Rendering Index (CRI): 82.6205
 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 L20069.
Dialight unit model number L[C,E,F,W][D,U]-[L,Z]UN[2,8]6x-xxx-xx

Test Conditions:

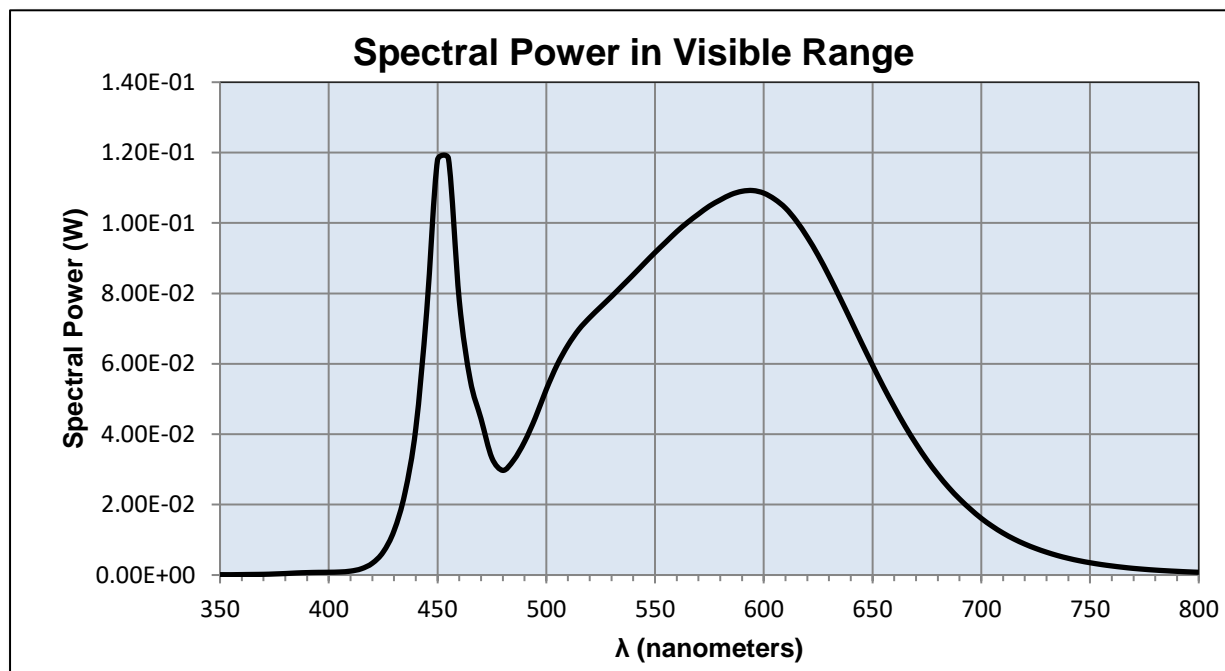
Ambient Temperature: 25 ± 1 (°C)

Electrical Measurements:

Input Voltage: 120 (VAC)
Input Current: 0.431465 (A)
Input Power: 51.2 (W)
Input Power Factor: 0.991722
Current ATHD: 10.9752 (%)

Photometric measurements:

Luminous Flux: 6440.177 (lumens)
Luminous Efficacy: 125.8 (lumens/W)
Correlated Color Temperature (CCT): 3966 (K)
CRI -Ra: 82.6205
CRI -R9: 10.2061
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: 94.7
TM30_Rcs_hue1: -11.64 %



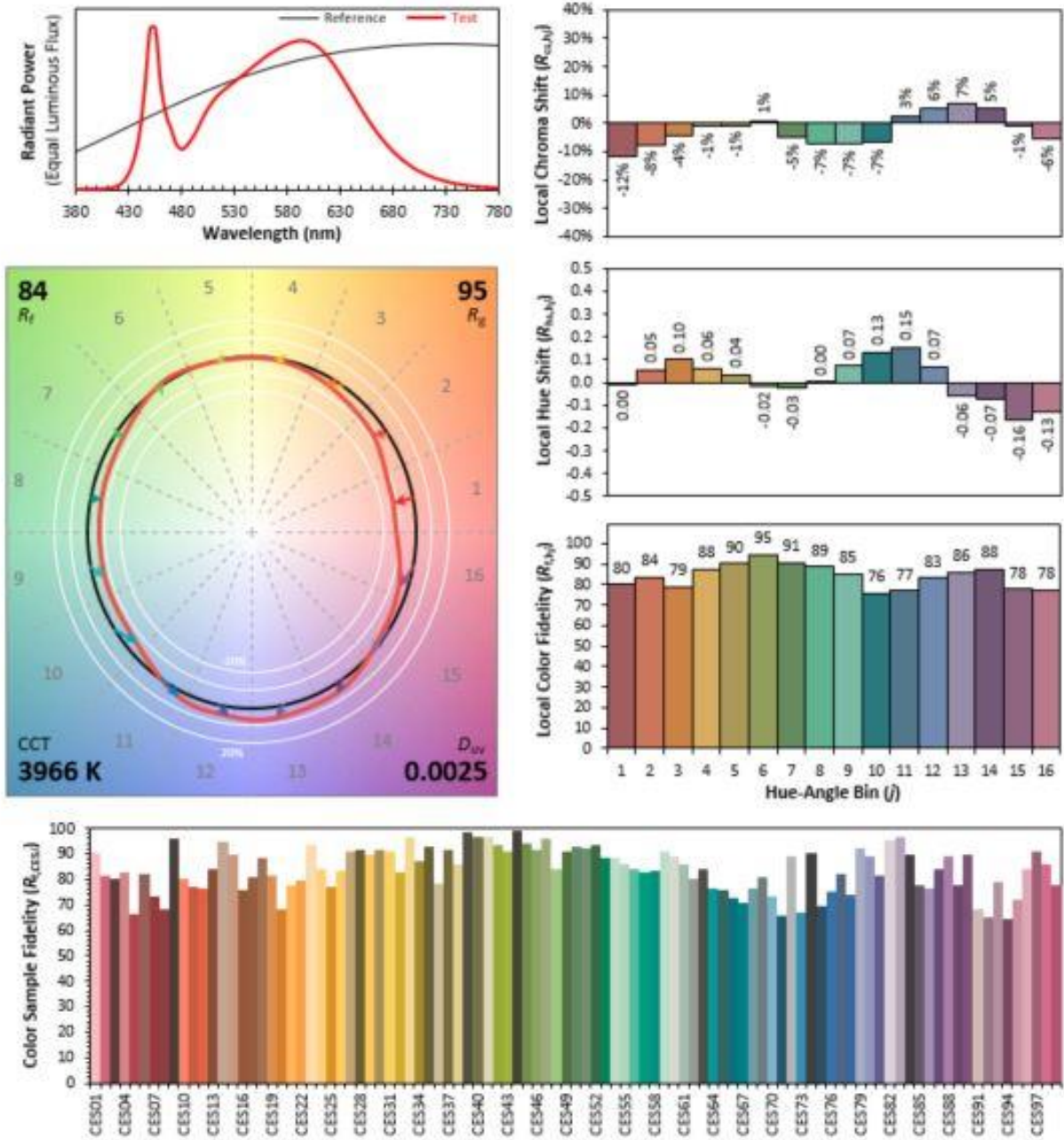
Test Results: Integrating Sphere

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	0.00010	490	0.03786	630	0.08498	770	0.00189
355	0.00009	495	0.04472	635	0.07879	775	0.00163
360	0.00013	500	0.05270	640	0.07239	780	0.00140
365	0.00016	505	0.05972	645	0.06591	785	0.00121
370	0.00020	510	0.06531	650	0.05963	790	0.00105
375	0.00030	515	0.06977	655	0.05347	795	0.00090
380	0.00042	520	0.07315	660	0.04773	800	0.00078
385	0.00058	525	0.07616	665	0.04226		
390	0.00069	530	0.07913	670	0.03729		
395	0.00075	535	0.08221	675	0.03269		
400	0.00078	540	0.08531	680	0.02858		
405	0.00086	545	0.08849	685	0.02487		
410	0.00111	550	0.09163	690	0.02161		
415	0.00179	555	0.09459	695	0.01873		
420	0.00335	560	0.09756	700	0.01611		
425	0.00651	565	0.10020	705	0.01388		
430	0.01258	570	0.10255	710	0.01192		
435	0.02328	575	0.10480	715	0.01024		
440	0.04159	580	0.10656	720	0.00880		
445	0.07476	585	0.10811	725	0.00757		
450	0.11794	590	0.10902	730	0.00649		
455	0.11838	595	0.10922	735	0.00555		
460	0.07794	600	0.10849	740	0.00475		
465	0.05555	605	0.10677	745	0.00406		
470	0.04438	610	0.10424	750	0.00349		
475	0.03326	615	0.10056	755	0.00300		
480	0.02973	620	0.09602	760	0.00258		
485	0.03263	625	0.09082	765	0.00221		

IES TM-30-18 Color Rendition Report



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

x 0.3838
y 0.3843
u' 0.2243
v' 0.5053

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 L20069.
Dialight unit model number L[C,E,F,W][D,U]-[L,Z]UN[2,8]6x-xxx-xx

Electrical Measurements:

Input Voltage: 120.02 (VAC)
Input current: 0.42846 (A)
Input Power: 50.7 (W)
Power Factor: 0.9868

Photometric measurements:

Absolute Luminous Flux: 6283.3 (lumens)
Luminous Efficacy: 123.8 (lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	1113	1115	1114	1113	1113	
5.00	1115	1110	1107	1110	1115	113
15.00	1120	1110	1105	1115	1127	317
25.00	1136	1121	1124	1138	1152	527
35.00	1202	1179	1198	1202	1211	755
45.00	1324	1306	1345	1330	1310	1023
55.00	1420	1432	1485	1445	1362	1269
65.00	1306	1308	1333	1290	1224	1272
75.00	790	729	672	711	732	782
85.00	230	206	178	208	217	148
90.00	119	106	101	112	114	

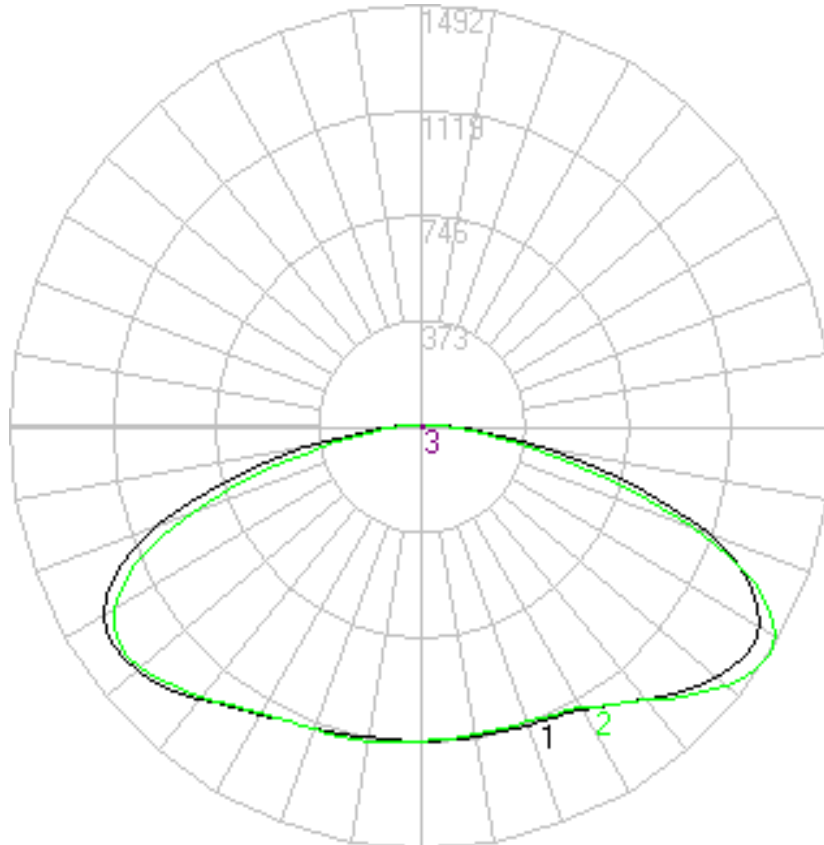
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0 to 30	954.58	15.19	15.19
0 to 40	1710.96	27.23	27.23
0 to 60	3976.28	63.28	63.28
0 to 90	6151.23	97.90	97.90
90 to 180	132.10	2.10	2.10
0 to 180	6283.33	100.00	100.00

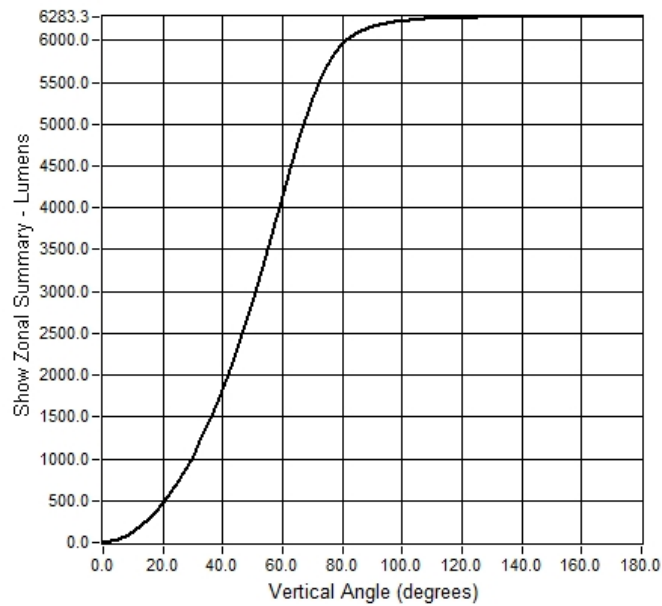
Test Results: Goniometer

Results continued from previous page.

Polar Plot:



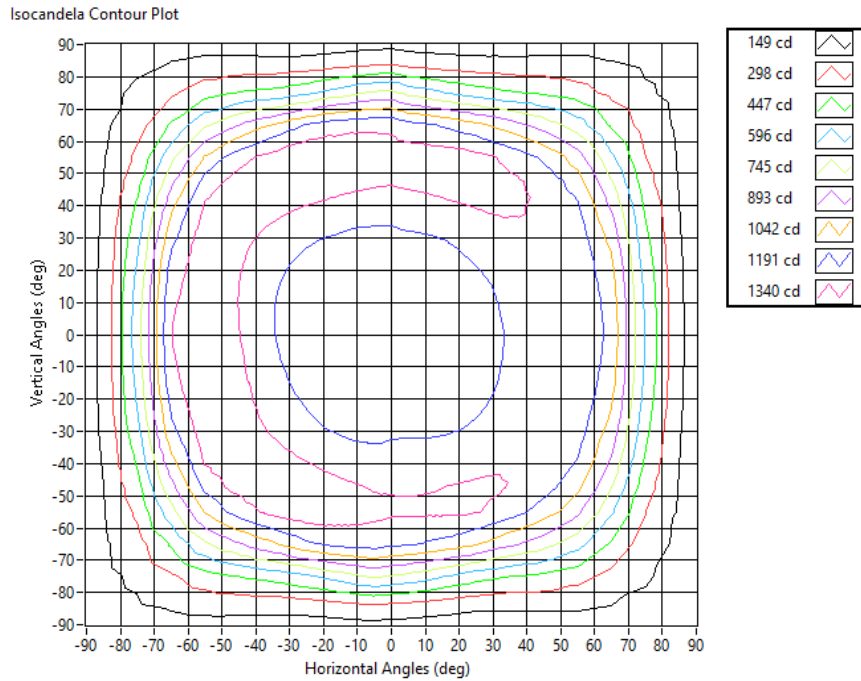
Zonal Flux Graph



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	21.22	16.64	278.4
4	42.44	33.27	69.6
6	63.65	49.91	30.9
8	84.87	66.55	17.4
10	106.09	83.19	11.1
12	127.31	99.82	7.7
14	148.52	116.46	5.7
16	169.74	133.10	4.4
18	190.96	149.73	3.4
20	212.18	166.37	2.8

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