Test Report

Report Number: L21187 Date: Feb 15, 2022

Issued by:
Dialight Optics Laboratory
1501 Route 34 South, Farmingdale, NJ 07727

Test of one BH Z1 CL W CW 6klm 230V
Unit manufacturer: Dialight Corporation
Unit model number: BxA4UCG6xxxxxx

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: January 18, 2022 through January 21, 2022

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: L21187
Manufacturer: Dialight Corporation
Product Name: SafeSite Bulkhead
Description: BH Z1 CL W CW 6klm 230V
Model Number: BxA4UCG6xxxxxx

Report Summary

Sample number L21187
Dialight unit model number BxA4UCG6xxxxxx

Photograph(s) of sample:





*Photographs not to scale. For reference only.

Summary of Results:

	Integrating Sphere		Goniophotometer	
Luminous Flux:	6248	(lumens)	6255	(lumens)
Electrical Power:	49.6	(W)	49.5	(W)
Luminous Efficacy:	125.9	(lumens/W)	126.5	(lumens/W)

Electrical Measurements:

Input Power (240VAC):	49.6	(W)
Power Factor (240VAC):	0.9646	
Current ATHD % (240VAC):	21.78	
Input Power (120VAC):	50.3	(W)
Power Factor (120VAC):	0.9845	
Current ATHD % (120VAC):	16.27	

Color Measurements:

Correlated Color Temperature (CCT):	5258
Color Rendering Index (CRI):	82.38
Chromaticity Coordinate (x):	0.338
Chromaticity Coordinate (y):	0.349
Chromaticity Coordinate (u'):	0.208
Chromaticity Coordinate (v'):	0.482
DUV:	0.0013

Temperature Measurements:

In Situ LED Source Temperature:	45.2	(°C)

Test Results: Integrating Sphere

Results include unit color, flux, efficacy and electrical power for sample number L21187.
Dialight unit model number BxA4UCG6xxxxxx

Test Conditions:

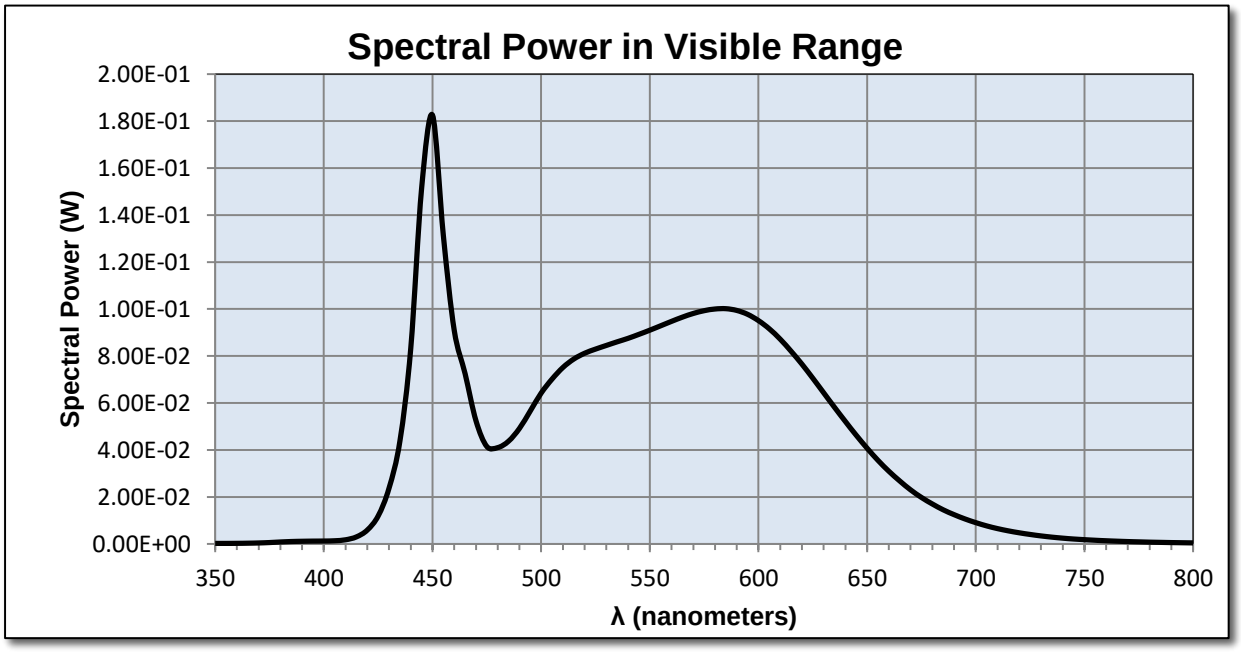
Ambient Temperature: 25 ± 1.0 (°C)

Electrical Measurements:

Input Voltage:	240.0	(VAC)
Input Current:	0.214	(A)
Input Power:	49.6	(W)
Input Power Factor:	0.9646	
Current ATHD:	21.78	(%)

Photometric measurements:

Luminous Flux:	6248.1	(lumens)
Luminous Efficacy:	125.9	(lumens/W)
Correlated Color Temperature (CCT):	5258	(K)
CRI -Ra:	82.38	
CRI -R9:	0.00	
DUV:	0.0013	
CIE Coordinate (x):	0.338	
CIE Coordinate (y):	0.349	
CIE Coordinate (u'):	0.208	
CIE Coordinate (v'):	0.482	
TM30_Rf:	83.0	
TM30_Rg:	95.9	
TM30_Rcs_hue1:	-13.53	%



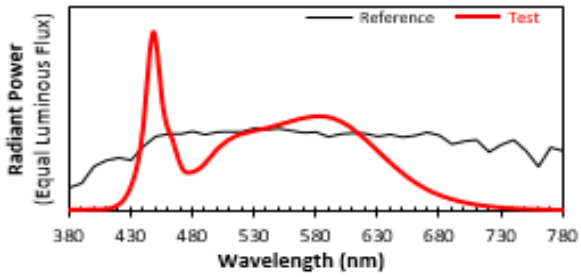
Test Results: Integrating Sphere

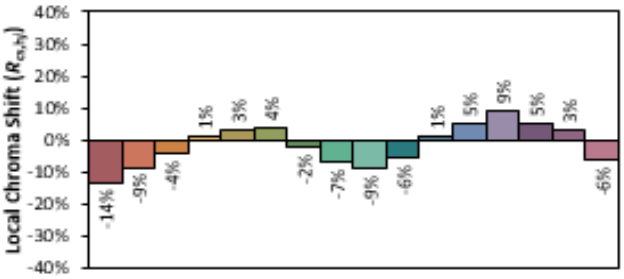
Results continued from previous page.

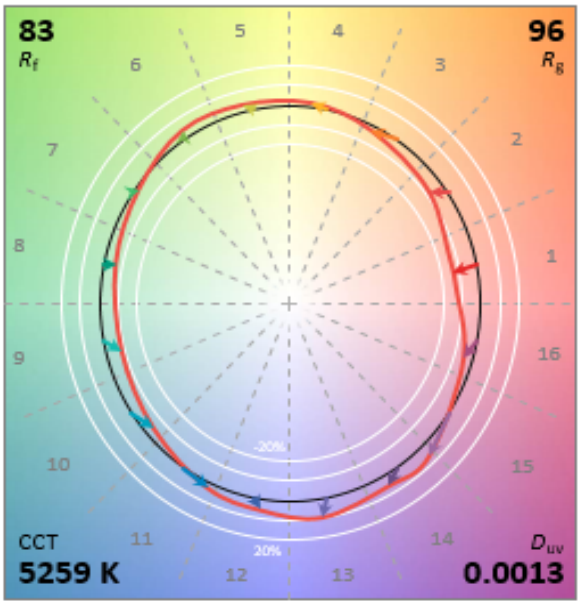
Tabulated Spectral Power in Visible Range:

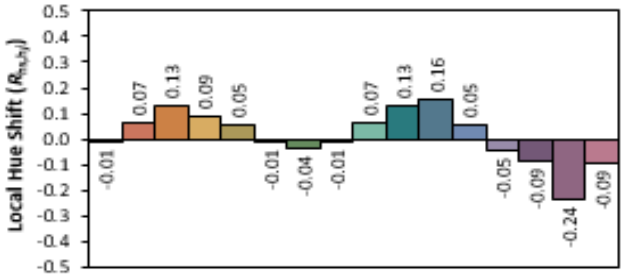
λ(nm)	(W/nm)	λ(nm)	(W/nm)	λ(nm)	(W/nm)	λ(nm)	(W/nm)
350	0.00022	490	0.04915	630	0.06433	770	0.00100
355	0.00021	495	0.05660	635	0.05815	775	0.00087
360	0.00025	500	0.06422	640	0.05210	780	0.00075
365	0.00030	505	0.07016	645	0.04625	785	0.00066
370	0.00041	510	0.07510	650	0.04074	790	0.00057
375	0.00058	515	0.07869	655	0.03557	795	0.00050
380	0.00083	520	0.08117	660	0.03094	800	0.00043
385	0.00102	525	0.08293	665	0.02680		
390	0.00112	530	0.08450	670	0.02301		
395	0.00119	535	0.08604	675	0.01977		
400	0.00122	540	0.08752	680	0.01701		
405	0.00134	545	0.08922	685	0.01452		
410	0.00176	550	0.09099	690	0.01246		
415	0.00300	555	0.09286	695	0.01064		
420	0.00591	560	0.09474	700	0.00906		
425	0.01192	565	0.09654	705	0.00767		
430	0.02374	570	0.09811	710	0.00652		
435	0.04380	575	0.09929	715	0.00556		
440	0.08331	580	0.10001	720	0.00473		
445	0.15154	585	0.10014	725	0.00403		
450	0.18252	590	0.09940	730	0.00341		
455	0.13116	595	0.09774	735	0.00288		
460	0.09091	600	0.09507	740	0.00245		
465	0.07245	605	0.09156	745	0.00209		
470	0.05244	610	0.08717	750	0.00180		
475	0.04147	615	0.08204	755	0.00155		
480	0.04100	620	0.07652	760	0.00134		
485	0.04372	625	0.07054	765	0.00116		

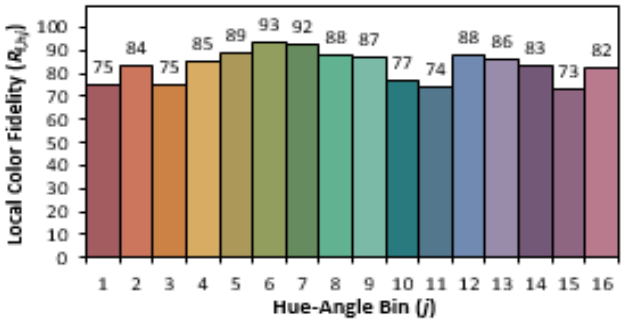
IES TM-30-18 Color Renditon Report

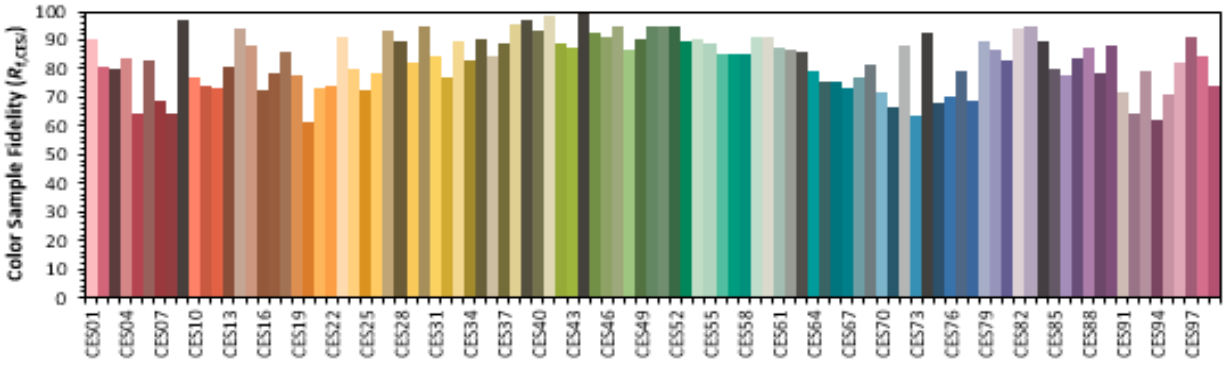












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3383
y	0.3485
u'	0.2080
v'	0.4822

CIE 13.3-1995 (CRI)

R_a	82
R_9	0

Test Results: Goniometer

Results include unit flux, distribution, efficacy, and electrical power for sample number L21187.
Dialight unit model number BxA4UCG6xxxxxx

Electrical Measurements:

Input Voltage:	240.1	(VAC)
Input current:	0.21	(A)
Input Power:	49.46	(W)
Power Factor:	0.9643	

Photometric measurements:

Absolute Luminous Flux:	6255.0	(lumens)
Luminous Efficacy:	126.5	(lumens/W)

Intensity Summary:

Candlepower Summary

H/V	0.00	45.00	90.00	135.00	180.00	Lumens
0.00	1716	1715	1706	1707	1716	
5.00	1615	1634	1699	1762	1798	173
15.00	1362	1475	1728	1820	1823	460
25.00	1060	1325	1790	1727	1571	661
35.00	804	1203	1925	1538	1083	737
45.00	672	1020	2170	1541	760	805
55.00	630	809	2664	1824	517	916
65.00	220	439	4069	3772	197	1157
75.00	71	158	1672	1655	65	506
85.00	7	26	77	57	5	14
90.00	0	4	15	11	0	

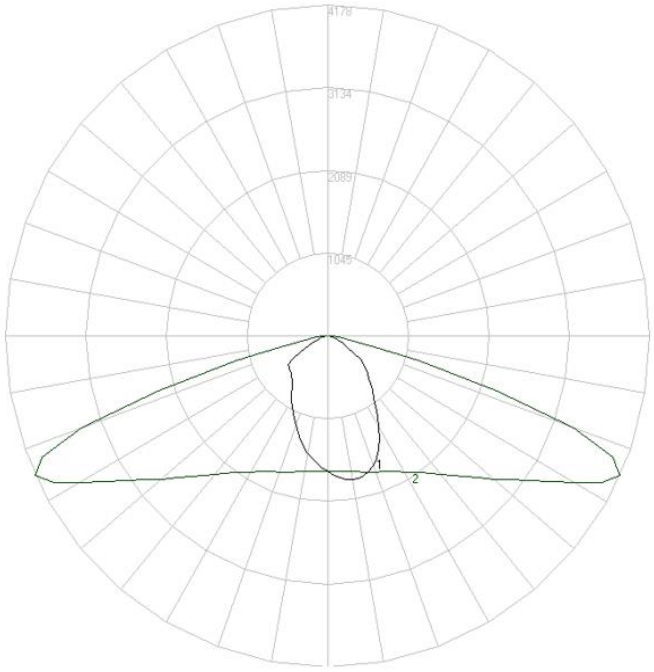
Zonal Lumen Summary

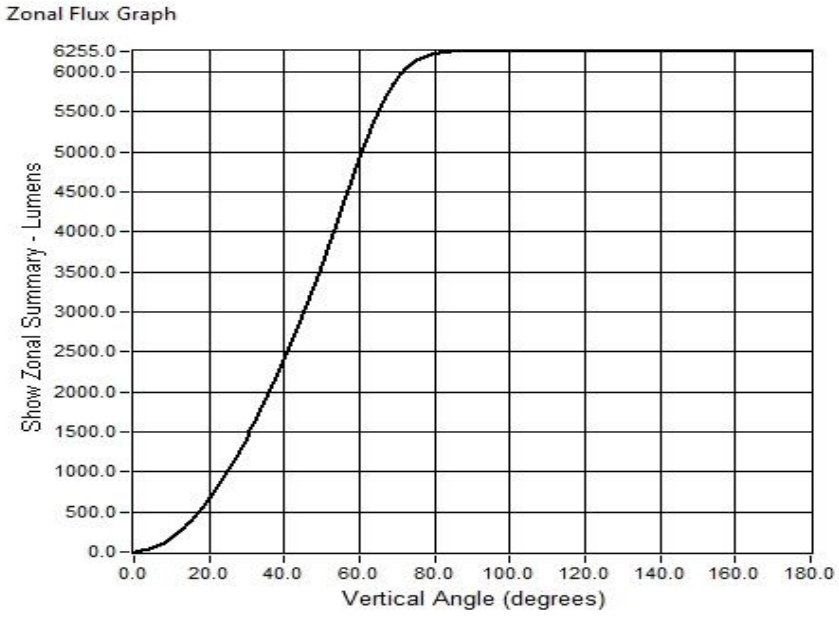
Zone	Lumens	% Lamp	% Fixture
0 to 30	1379.18	22.05	22.05
0 to 40	2339.06	37.39	37.39
0 to 60	4853.44	77.59	77.59
0 to 90	6255.03	100.00	100.00
90 to 180	0.00	0.00	0.00
0 to 180	6255.03	100.00	100.00

Test Results: Goniometer

Results continued from previous page.

Polar Plot:

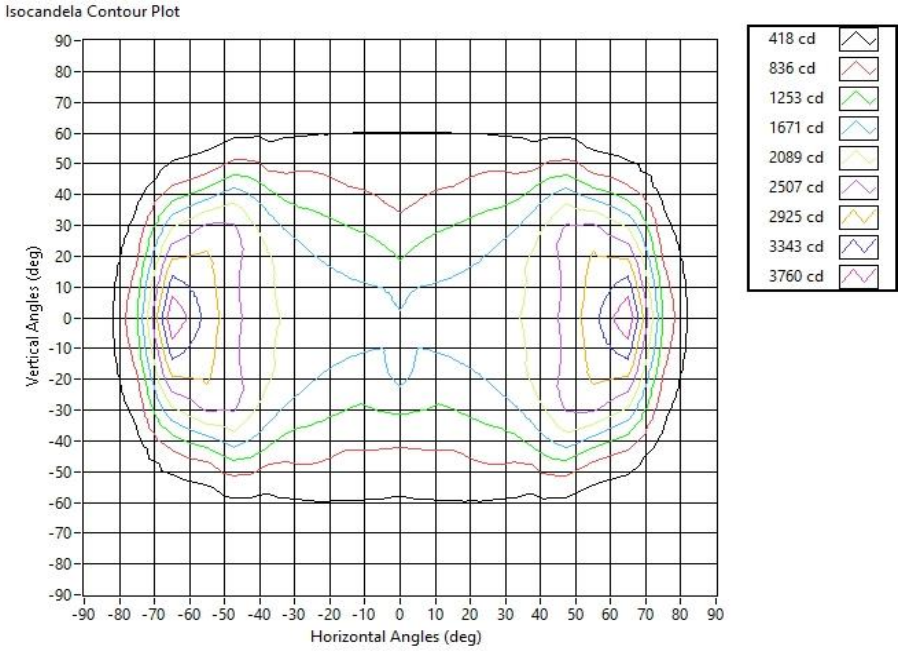




Test Results: Goniometer

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	3.13	17.05	428.5
4	6.25	34.11	107.1
6	9.38	51.16	47.6
8	12.50	68.21	26.8
10	15.63	85.26	17.1
12	18.75	102.32	11.9
14	21.88	119.37	8.7
16	25.00	136.42	6.7
18	28.13	153.47	5.3
20	31.25	170.53	4.3

Test Results: In Situ Temperature Measurement Test

Results include maximum LED chip temperature for sample number L21187.
Dialight unit model number BxA4UCG6xxxxxx

LED identified as Seoul part number STW8C12C-E0.

LED drive current (as indicated by customer):	125	(mA)

LED Specifications:

LED specifications are taken from LED manufacturer datasheet:

Maximum Forward Current (If):	200	(mA)
Maximum Rated Power Dissipation:	0.6	(W)
Maximum Junction Temp. (Tj):	125	(°C)
Thermal Resistance (Rth):	7.5	(°C/W)

Derived Specifications:

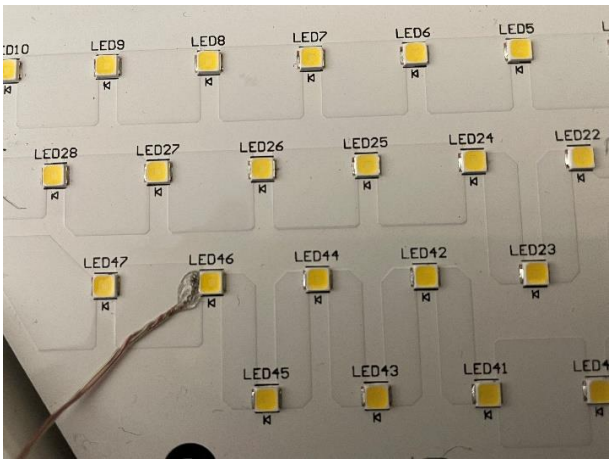
Maximum Power at Indicated Current:	0.375	(W)
Maximum Source Temperature:	122.1875	(°C)

Test Conditions:

Temperature Measurement Location:	See Photographs Below	
Ambient Temperature:	25° ± 5°	(°C)
Ambient temperature at time of measurement:	24	(°C)
Relative humidity at time of measurement:	28%	

Results:

Measured LED source temperature:	45.2	(°C)





Equipment Used:

Equipment Name	Model Number
Omega TC	DPi8
Omega Temperature Controller	DP41-RTD-A
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
Omega Thermocouple	5TC-TT-K
Fluke 971 Humidity Meter	971
GwINSTEK DC Power Supply	GEP172679
Dialight Confirmation Sample	
Omega TC	TC-08
Labsphere calibration lamp for 2M sphere	SCL-1400
Labshere 2M sphere	Illumia Plus 2600-1
Labshere Controller	PM-150-140
Labshere Spectrameter- CDS 2600 Spectrometer	CDS-2600
Xitron Power Analyzer	XT2640
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
Xitron Power Analyzer	XT2640
LPS-525 DC Power Supply	LPS-525
Omega Temperature Controller	DP41-RTD-A
YOKOGAWA Digital Power Meter	WT310E

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.
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Test Report Issued By:

Kevin Rosseter
Dialight Optics Laboratory
Optics Lab Technician

Test Report Reviewed and Approved By:

Callan McCormick
Dialight Optics Laboratory
Optics Lab Engineer
Approved Signatory