

## REPORT

25800 COMMERCE DRIVE, LAKE FOREST, CA 92630

Project No. G103924656

Date: May 13, 2019

REPORT NO. 103924656LAX-015

TEST OF ONE LED LUMINAIRE

MODEL NO. ALD-R-160W-HV-30K-TF  
LED MODEL NO. GWP9LR34.PM-M2M3  
DRIVER MODEL NO. ESD-150S350DT  
RETROFIT MODEL NO. LITHONIA KAD CONTOUR SERIES

RENDERED TO

SIMPLYLEDs LLC  
111 W. 34TH STREET  
GARDEN CITY, IDAHO, 83714

TEST: Electrical and Photometric tests as required to the IESNA test standard.

AUTHORIZATION: The testing performed was authorized by signed quote number Qu-00973316-1.

STANDARDS USED: The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:

IESNA LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting

DESCRIPTION OF SAMPLE: The client submitted one production sample of model number ALD-R-160W-HV-30K-TF. The sample was received by Intertek on March 19, 2019, in undamaged condition and one sample was tested as received. The sample designation was LAN1903191345-003A.

DATES OF TESTS: May 11, 2019

## SUMMARY

Model No.: ALD-R-160W-HV-30K-TF Description: LED Luminaire
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Criteria	Result
Total Lumen Output (Lumens)	20706
Total Power (W)	158.6
Luminaire Efficacy (LPW)	130.6
Power Factor	0.993
BUG Rating	B5-U0-G1
IES Classification	Type VS
Longitudinal Classification	Very Short

## EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date	Date Used
Goniophotometer	6440T	000943	VBV	VBV	05/11/19
Power Analyzer	WT210	000945	11/28/18	11/28/19	05/11/19
Magnetic Level	581-9	001610	10/31/18	10/31/19	05/11/19
Thermometer	DPI8-C24	001782	09/21/18	09/21/19	05/11/19
Temp. & RH Meter	971	001177	01/29/19	01/29/20	05/11/19
Power Supply (AC 3P / DC)	CSW5550-208-LAN	001339	VBV	VBV	05/11/19

## TEST METHODS

### Seasoning in Sample Orientation – LED Products

No seasoning was performed in accordance with IESNA LM-79.

### Photometric and Electrical Measurements – Distribution Method

A LSI Type C High Speed Model 6440 Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for each sample.

Ambient temperature was measured equal to the height of the sample mounted on the Goniometer equipment. Each sample was operated at input rated voltage in its designated orientation. Each sample was allowed to stabilize for at least thirty minutes before measurements were made. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa Power Analyzer.

Some graphics were created with Photometrics Plus software.

### BUG Ratings (Backlight, Uplight, Glare) – for Outdoor Fixtures Only

Zonal Lumens were calculated and grouped using the formula in IESNA TM-15-11 for each zone as defined in the BUG addendum. The maximum lumen rating in each zone was compared against the BUG zonal requirements of Energy Star. Photometric Toolbox software was used to calculate results.

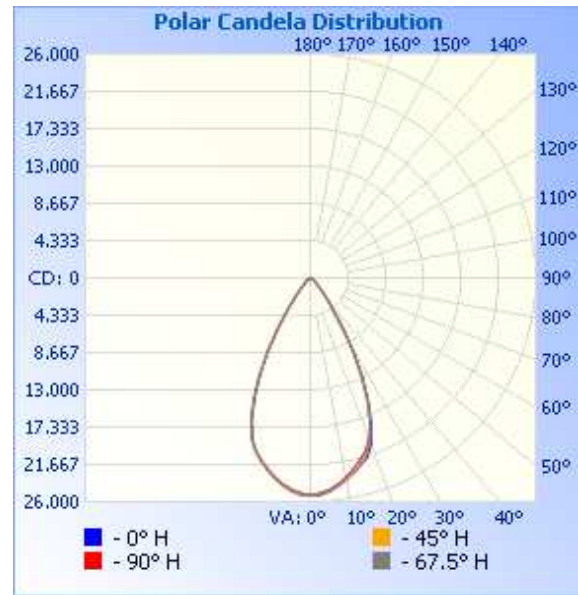
## RESULTS OF TEST

### Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method

Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD	Absolute Luminous Flux (Lumens)	Lumen Efficacy (LPW)
LAN1903191345-003A	UP	277.0	576.4	158.6	0.993	8.10	20706	130.6
		480.0	345.4	159.4	0.962	6.61		

### Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	25	45	67.5	90
0	25244	25244	25244	25244	25244
5	24902	24838	24835	24744	24650
10	23805	23791	23734	23598	23477
15	22476	22446	22330	22069	21875
20	20498	20139	20105	20012	19773
25	15735	15351	15454	15504	15514
30	9959	9606	9662	9793	9936
35	5040	4807	4837	4883	4930
40	2473	2400	2393	2382	2389
45	1192	1136	1130	1168	1178
50	715	703	706	704	710
55	504	481	494	500	507
60	347	317	329	337	361
65	205	202	221	221	231
70	145	156	170	174	174
75	120	136	143	148	146
80	101	120	123	118	108
85	64	93	93	72	46
90	0	0	0	0	0



## RESULTS OF TEST (cont'd)

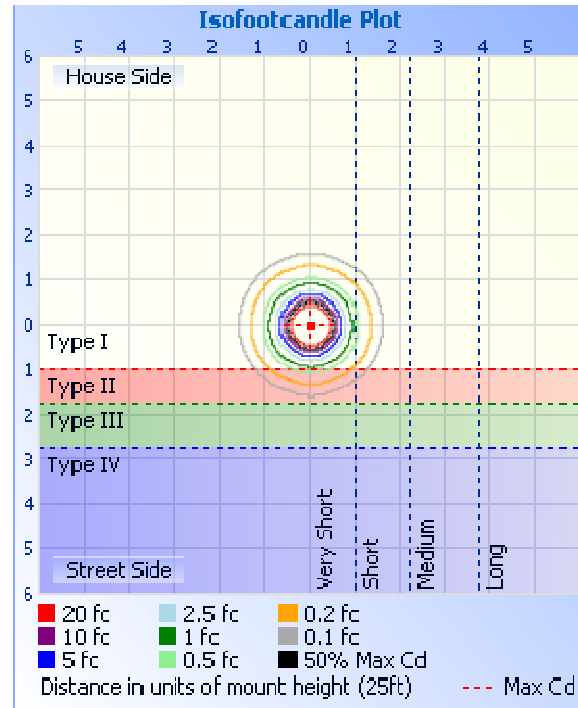
### Illumination Plots

Mounting Height: 25 ft.

Illuminance - Cone of Light



Isoillumination Plot



### Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	15433	74.5
0-40	18757	90.6
0-60	20226	97.7
60-90	479.6	2.3
0-90	20706	100.0
90-180	0.0	0.0
0-180	20706	100.0

### Luminaire Classification System (LCS)

LCS	Zone	Lumens	% Luminaire
FL	(0-30)	7727.7	37.3
FM	(30-60)	2344.1	11.3
FH	(60-80)	186.4	0.9
FVH	(80-90)	38.4	0.2
BL	(0-30)	7726.5	37.3
BM	(30-60)	2460.3	11.9
BH	(60-80)	209.8	1.0
BVH	(80-90)	45.1	0.2
UL	(90-100)	0.0	0.0
UH	(100-180)	0.0	0.0

### Zonal Lumens and Percentages at 25°C

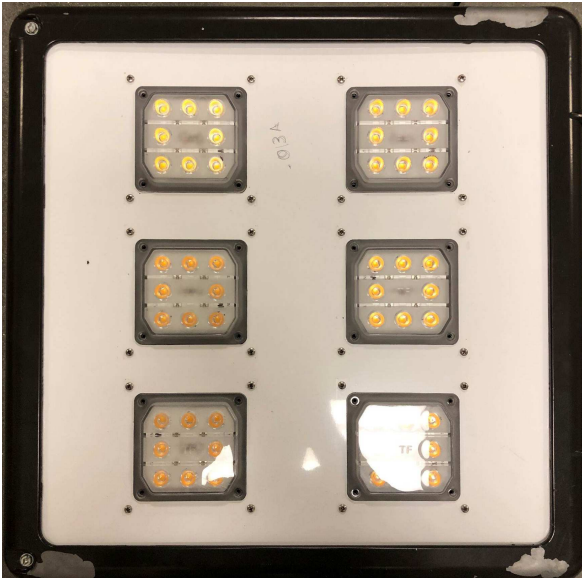
Zone	Lumens	% Luminaire
0-10	2326	11.2
10-20	6184	29.9
20-30	6922	33.4
30-40	3325	16.1
40-50	1010	4.9
50-60	459.0	2.2
60-70	238.9	1.2
70-80	157.2	0.8
80-90	83.5	0.4

BUG Rating: B5-U0-G1

IES Classification: Type VS

Longitudinal Classification: Very Short

PICTURES (not to scale)



CONCLUSION

The results tabulated in this report are representative of the actual test samples submitted for this report only. The data is provided to the client for further evaluation. Compliance to the referenced specification requirements was not determined in this report.

In Charge Of Tests:

Erik Linares  
Associate Engineer  
Lighting Division

Attachment: None

Report Reviewed By:

Vladimir Kozak  
Engineering Supervisor  
Lighting Division