



REPORT

545 E. Algonquin Rd., Arlington Heights, IL 60005

Project No. G101316169

Date: September 4, 2013

REPORT NO. 101316169CHI-005D

TEST OF ONE SELF-BALLASTED LED REPLACEMENT LAMP WITH TYPE II OPTICS

MODEL NO. DEG-150175
DRIVER MODEL NO. MH0075-50W

RENDERED TO

LEADER MANUFACTURING, INC./ DIFFERENTIAL ENERGY GLOBAL LTD.
1540 LEADER INTERNATIONAL DRIVE
PORT ORCHARD, WA 98367-6437

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

STATEMENT OF LIMITATION: This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

AUTHORIZATION: The testing performed was authorized by signed quote number 500473221.

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 prototype sample of model number DEG-150175. The sample was received by Intertek on August 27, 2013, in undamaged condition and one sample was tested as received. The sample designation was CHI08272013124847.

DATES OF TESTS: September 4, 2013



SUMMARY

Model No.:	DEG-150175
Description:	Self-Ballasted LED Replacement Lamp with Type II Optics

Criteria	Result
Total Lumen Output (Lumens)	3928
Total Power (W)	54.47
Luminaire Efficacy (LPW)	72.11
Power Factor	0.980

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date
Yokogawa Power Meter	WT210	146919	12/21/12	12/21/13
Omega Thermometer	DPI8-C24	146920	11/15/12	11/15/13
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU
Newport Hygrometer	iServer	146960	02/21/13	02/21/14
Elgar, AC Power Supply	CW1251P	146918	VBU	VBU
Cole-Parmer Triple Timer	94440-00	CHI0041	06/20/13	06/20/14

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.

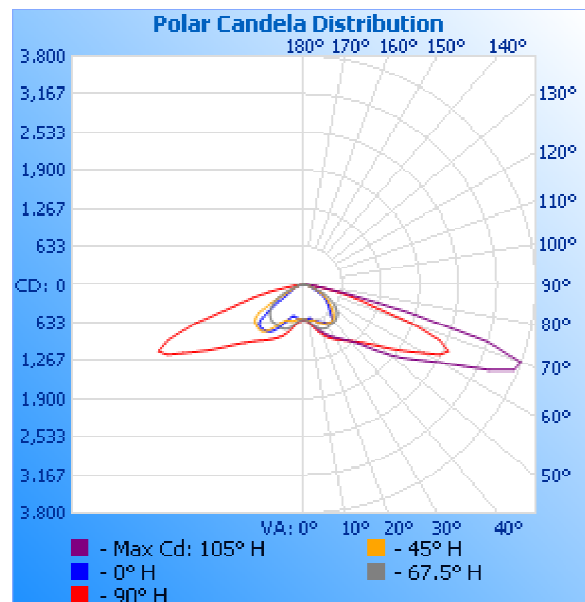
RESULTS OF TEST

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	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
CHI08272013124847	HORIZONTAL	120.0	463.2	54.47	0.980	3928	72.11

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	573	573	573	573	573
5	587	592	586	584	588
10	561	572	562	564	578
15	610	620	610	608	601
20	650	660	656	657	658
25	687	694	702	708	713
30	736	743	743	749	752
35	773	776	770	757	758
40	736	734	726	727	735
45	609	612	622	648	674
50	524	530	537	546	565
55	441	444	452	468	479
60	343	341	351	363	374
65	214	211	225	238	248
70	132	120	129	139	138
75	84	82	99	99	96
80	67	74	136	180	95
85	70	77	149	224	58
90	26	43	96	117	23
95	6	8	22	51	9
100	1	1	2	2	2
105	1	1	1	1	1
110	1	1	1	1	1
115	1	1	1	1	1
120	1	1	1	1	1
125	1	1	1	1	1
130	1	1	1	1	1
135	1	1	1	1	1
140	2	1	1	1	1
145	2	1	1	1	1
150	1	1	1	1	1
155	1	1	1	1	1
160	1	1	1	1	1
165	1	1	1	1	1
170	1	1	1	1	1
175	1	1	1	1	1
180	1	1	1	1	1

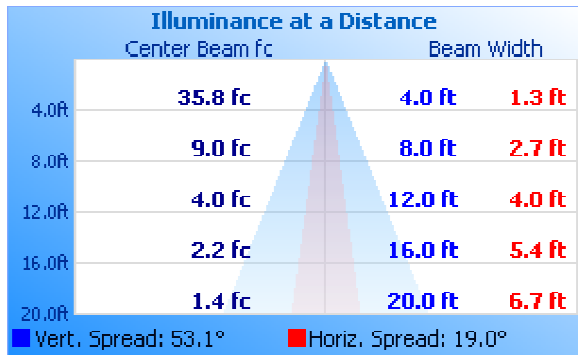


RESULTS OF TEST (cont'd)

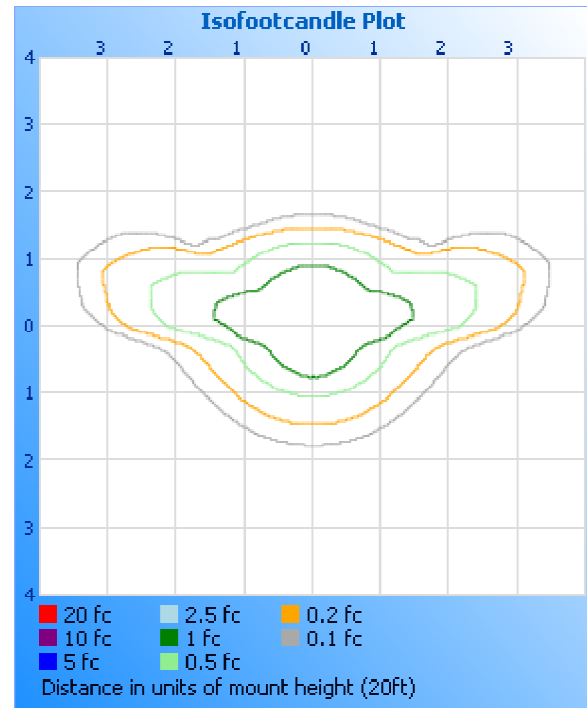
Illumination Plots

Mounting Height: 20 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	597.3	15.2
0-40	1165	29.7
0-60	2716	69.2
60-90	1190	30.3
0-90	3907	99.5
90-180	21.3	0.5
0-180	3928	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	56.5	1.4
10-20	185.1	4.7
20-30	355.7	9.1
30-40	568.1	14.5
40-50	746.1	19.0
50-60	805.1	20.5
60-70	750.4	19.1
70-80	358.5	9.1
80-90	81.6	2.1
90-100	14.2	0.4
100-110	1.7	0.0
110-120	1.3	0.0
120-130	1.3	0.0
130-140	1.1	0.0
140-150	0.8	0.0
150-160	0.5	0.0
160-170	0.3	0.0
170-180	0.1	0.0

PICTURE (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:



Tim Quigley
Engineer
Lighting Division

Attachment: None

Report Reviewed By:



Joe Schledorn
Project Engineer
Lighting Division