



ENERGY STAR TEST REPORT

ENERGY STAR Program Requirements Product Specification for Luminaires (Light Fixtures) Eligibility Criteria Version 2.2

Applicant's name	LED One Corporation
Address	12437 Bellegrave Ave Eastvale, CA 91752 USA
Brands	LEDone
Report No.	BTR66.181.20.0028.60
Model	LOC-7RDDL-12WMCCT
Tested by (printed name and signature)	Xia Zeng 
Title	Test Engineer
Approved by (printed name and signature)	Zack Zhao 
Title	Approved By
Date of test	Jun 01, 2020 to Jun 09, 2020
Date of issue	Sep 19, 2022
Testing Laboratory Name	BEST Test Service Shenzhen Co., Ltd.
Address	1 st Floor, 1 st Building, Weitai Industrial Park, Yingrenshi, Shiyan, Baoan, Shenzhen, China TEL: + 86-755-28236006; FAX: + 86-755-23467087 Email: service@bestcert.cn
Accreditation	DLC/Lighting Facts/UL/ETL/ELI/CEC/EPA/DOE NVLAP Lab Code: 200770-0
Test specification	
Standard	Luminaires V2.2
Test procedure/method	Energy Star Test Procedure
Non-standard test method	No
Deviations	N/A

Note:

The laboratory has not been responsible for the sampling stage (e.g. the sample has been provided by the customer), the results relate only to the items tested.

This report is not valid as a BEST Test Report unless signed by an approved BEST Test Service Shenzhen Co., Ltd. This report shall not be reproduced except in full without approval of BEST TEST SERVICE SHENZHEN CO., LTD can provide assurance that parts of a report are not taken out of context. The test report only allows to be revised within the retention period unless further standard or the requirement was noticed. This report is for the exclusive use of BEST's Client and is provided pursuant to the agreement between BEST and its Client. BEST's responsibility and Liability are limited to the terms and conditions of the agreement. BEST assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the BEST name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by BEST. The observations and test results in this report are relevant only to the sample tested. This report by itself does not cover that the material, product, of service is or has ever been under a BEST certification program. National Voluntary Laboratory Accreditation Program (NVLAP) has accredited this laboratory under ISO17025: 2017 for specific laboratory activities as listed in the NVLAP directory of accredited laboratories. The results shown in this report were determined by this laboratory in accordance with its terms of accreditation. This report must not be used by the client to claim product endorsement by NVLAP, NIST or any agency of the U.S. Government.

Product description:			
The date of sampling	N/A		
The date of receipt of the test sample / requirement /item(s).....	Jun 01, 2020		
Sample Quantities	1pc		
Sampling method.....	Provided by Applicant		
The condition of the item	N/A		
Fixture Model Name	Downlight Surface Mount		
Fixture Model Number(SKU)	Not Provide		
Product Type	<input checked="" type="checkbox"/> Indoor Directional Luminaire	<input type="checkbox"/> Indoor/Outdoor Directional Luminaire	
	<input type="checkbox"/> Outdoor Directional Luminaire	<input type="checkbox"/> Indoor Non-Directional Luminaire	
	<input type="checkbox"/> Indoor/Outdoor Non-Directional Luminaire	<input type="checkbox"/> Outdoor Non-Directional Luminaire	
Connected Luminaire?	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No
Communication_Standard_Media_Network_Layer	<input type="checkbox"/> Wired Ethernet	<input type="checkbox"/> Wi-Fi	<input type="checkbox"/> Zigbee
	<input type="checkbox"/> Home Plug Green PHY	<input type="checkbox"/> 6LoWPAN	<input type="checkbox"/> Z-Wave
	<input type="checkbox"/> Other:		
Tested Model Number	LOC-7RDDL-12WMCCT		
Additional Models Represented.....	N/A		
Note	N/A		
Rating(s) Input Voltage (V; Hz).....	AC 120V, 60Hz		
Test Voltage(V; Hz)	AC 120V, 60Hz		
Fixture Nominal Power	12W		
Total Lumen Output of Fixture.....	960 lm		
Claimed Incandescent Equivalency....	N/A		
Target CCT	2700-3000K-3500-4000K-5000K(The default CCT setting is 2700K)		
Allowable CCT	N/A		
CRI(Ra)	80		
Nominal Life.....	50000Hours		
Lighting Technology Used	<input checked="" type="checkbox"/> Solid State		<input type="checkbox"/> Fluorescent
Directional Luminaire Type.....	<input type="checkbox"/> Accent Light Line-voltage	<input checked="" type="checkbox"/> Downlight Surface Mount	
	<input type="checkbox"/> Downlight Solid State Retrofit kits	<input type="checkbox"/> Downlight Recessed	
	<input type="checkbox"/> Downlight Pendant	<input type="checkbox"/> Under Cabinet	
	<input type="checkbox"/> Outdoor Security	<input type="checkbox"/> Cove Mount	
	<input type="checkbox"/> Outdoor Porch Wall Mount	<input type="checkbox"/> Outdoor Post Mounted	
	<input type="checkbox"/> Outdoor Ceiling	<input type="checkbox"/> Outdoor Close to Ceiling	
	<input type="checkbox"/> Outdoor Pendant	<input type="checkbox"/> Portable Desk Task	

Inseparable Other SSL (Non-Directional Luminaire):	<input type="checkbox"/> Bath Vanity	<input type="checkbox"/> Ceiling Mount
	<input type="checkbox"/> Chandelier	<input type="checkbox"/> Close to Ceiling Mount
	<input type="checkbox"/> Decorative Pendant	<input type="checkbox"/> Wall Sconces
	<input type="checkbox"/> Linear Strip	<input type="checkbox"/> Residential Portable Desk Task Light
	<input type="checkbox"/> Wrapped Lens	<input type="checkbox"/> Table Lamp
	<input type="checkbox"/> Portable Floor Task Light	<input type="checkbox"/> Floor Lamp
	<input type="checkbox"/> Ventilating Fan Light	<input type="checkbox"/> Torchiere
	<input type="checkbox"/> Outdoor Ceiling Mount	<input type="checkbox"/> Outdoor Close to Ceiling Mount
	<input type="checkbox"/> Outdoor Porch Wall Mount	<input type="checkbox"/> Outdoor Pendant Mount
	<input type="checkbox"/> Outdoor Post Mount	<input type="checkbox"/> Other(description):
Recessed Downlight Ratings	<input type="checkbox"/> Type IC	<input type="checkbox"/> Type Non-IC
	<input type="checkbox"/> Type IC Airtight	<input type="checkbox"/> Type Non-IC Airtight
Or Downlight Surface Mount Ratings	<input type="checkbox"/> Type IC	<input type="checkbox"/> Type Non-IC
	<input type="checkbox"/> Type IC Airtight	<input type="checkbox"/> Type Non-IC Airtight
Luminaire Features	<input type="checkbox"/> Non-Dimmable	<input checked="" type="checkbox"/> Continuously Dimmable
	<input type="checkbox"/> Step Dimmable	<input type="checkbox"/> Color Tunable
	<input checked="" type="checkbox"/> White Light Tunable	<input type="checkbox"/> Occupancy Sensor
	<input type="checkbox"/> Dusk to Dawn Sensor	<input type="checkbox"/> Outdoor Rated
	<input type="checkbox"/> Damp Location Rated	<input checked="" type="checkbox"/> Wet Location Rated
	<input type="checkbox"/> Warm Dimming	<input type="checkbox"/> DALI Dimming
	<input type="checkbox"/> 0-10V Dimming	<input type="checkbox"/> Wireless Dimming
	<input type="checkbox"/> USB Charger	<input type="checkbox"/> AC Outlet
	<input type="checkbox"/> Motion Sensor	/
Dimming Range	10%-100%	
Allowable Housings/Chassis.....:	N/A	
Allowable Finishes	N/A	
Allowable Mounting type.....:	N/A	
Allowable Reflector/Trims	N/A	
Allowable Shade/Diffusers.....:	N/A	
Allowable Product Wattage(Directional Luminaires)	N/A	
Number of Ballast/Driver per Luminaire	1	
Number of Lighting Source per Ballast/Driver	1	
Lighting Source Type	<input type="checkbox"/> LED Lighting Engine	<input type="checkbox"/> LED Retrofit Kits
	<input type="checkbox"/> Compact Fluorescent	<input type="checkbox"/> Circline
	<input checked="" type="checkbox"/> Inseparable LED Source (modules, arrays, packages)	
Lighting Source Manufacture.....:	N/A	

Lighting Source Model.....:	N/A	
Lighting Source Lumen Output.....:	N/A	
Lighting Source is self-ballasted/has Integrated Driver?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Lighting Source Mercury Content (mg)	N/A	
External Ballast/Driver Brand.....:	N/A	
External Ballast/Driver Model Number	N/A	
Maximum Recommended Ballast/Driver Case Temperature °C	90	

Note: The test data in this report shares with the report NO.BTR66.181.19.0026.44.



The image shows the word "BEST" in a large, bold, white, sans-serif font. The letters are set against a light blue, rounded rectangular background that has a subtle gradient and a slight shadow effect, giving it a three-dimensional appearance.

Test Method Description

ANSI/IEEE C62.41.1-2002 IEEE Guide on the Surge Environment in Low-Voltage (1000 V and Less) AC Power Circuits
 ANSI/IEEE C62.41.2-2002 IEEE Recommended Practice on Characterization of Surges in Low-Voltage (1000V and Less) AC Power Circuits
 ANSI C78.5-2003 (R2015) Specifications for Performance of Self-ballasted Compact Fluorescent Lamps (Reaffirmed 2015)
 ANSI C78.81-2010 or C78.81-2016 Double-Capped Fluorescent Lamps—Dimensional and Electrical Characteristics
 ANSI C78.376-2014 Specifications for the Chromaticity of Fluorescent Lamps
 ANSI C78.377-2015 or C78.377-2017 Specifications for the Chromaticity of Solid State Lighting Products
 ANSI C78.901-2014 or C78.901-2016 Single-Based Fluorescent Lamps—Dimensional and Electrical Characteristics
 ANSI/ANSLG C81.61-2009 (R2014) or C81.61-2017 Specifications for Bases (Caps) for Electric Lamps (Reaffirmed 2014)
 ANSI/ANSLG C81.62-2009 (R2014) or C81.62-2017 Lampholders for Electric Lamps (Reaffirmed 2014)
 ANSI C82.2-2002 (R2016) Method of Measurement of Fluorescent Lamp Ballasts (Reaffirmed 2016)
 ANSI C82.11-2011 or C82.11-2017 High-Frequency Fluorescent Lamp Ballasts
 ANSI/ANSLG C82.16-2015 Light Emitting Diode Drivers—Methods of Measurement
 ANSI C82.77-10-2014 Harmonic Emission Limits—Related Power Quality Requirements for Lighting Equipment
 ANSI/UL 153-2002 or 153-2014 Standard for Safety of Portable Electric Luminaires
 ANSI/UL 935-2009 Standard for Safety of Fluorescent-Lamp Ballasts
 ANSI/UL 1310-2010 Standard for Safety of Class 2 Power Units
 ANSI/UL 1574-2004 Standard for Safety of Track Lighting Systems
 ANSI/UL 1598-2008 Standard for Safety of Luminaires
 ANSI/UL 1598B-2010 Standard for Supplemental Requirements for Luminaire Reflector Kits for Installation on Previously Installed Fluorescent Luminaires
 ANSI/UL 1598C Light-Emitting Diode (LED) Retrofit Luminaire Conversion Kits
 ANSI/UL 1993-2012 or 1993-2017 Standard for Safety of Self-Ballasted Lamps and Lamp Adapters
 ANSI/UL 2108-2004 or 2108-2015 Standard for Low-Voltage Lighting Systems
 ANSI/UL 8750-2009 or 8750-2015 Standard for Light Emitting Diode (LED) Equipment for Use in Lighting Products
 ASTM E283-04(2012) Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen (Reapproved 2012)
 CIE Pub. No. 13.3-1995 Method of Measuring and Specifying Color Rendering of Light Sources
 CIE Pub. No. 015:2004 Colorimetry
 EU Directive 2002/95/EC Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the Restriction of the Use of Certain Hazardous Substances In Electrical and Electronic Equipment
 FCC CFR Title 47 Part 15 Radio Frequency Devices
 FCC CFR Title 47 Part 18 Industrial, Scientific, and Medical Equipment
 IEC 60061-1 (2012) Lamp Caps and Holders Together with Gauges for the Control of Interchangeability and Safety – Part 1: Lamp Caps
 IEC 60081 Amend 4 Ed 5.0 (2010) Double-capped Fluorescent Lamps - Performance Specifications
 IEC 60901 (2011) Single-capped Fluorescent Lamps - Performance Specifications
 IEC 62301 ED.2.0 B:2011 Household electrical appliances - Measurement of standby power
 IEC 61347-2-3-am2 ed1.0 b.2011 Amendment 2 - Lamp Control Gear - Part 2-3: Particular Requirements for A.C. Supplied Electronic Ballasts for Fluorescent Lamps
 IEC 62321 Ed. 1.0 Electrotechnical Products - Determination Of Levels Of Six Regulated Substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers)
 IEEE 1789-2015 Recommending Practices for Modulating Current in High Brightness LEDs for Mitigating Health Risks to Viewers
 IES LM-9-09 Electric and Photometric Measurements of Fluorescent Lamps
 IES LM-10-96 Photometric Testing of Outdoor Fluorescent Luminaires
 IES LM-31-95 Photometric Testing of Roadway Luminaires Using Incandescent Filament and High Intensity Discharge (HID) Lamps
 IES LM-40-10 Life Testing of Fluorescent Lamps
 IES LM-41-14 Approved Method for Photometric Testing of Indoor Fluorescent Luminaires
 IES LM-46-04 Photometric Testing of Indoor Luminaires Using High Intensity Discharge or Incandescent Filament Lamps
 IES LM-49-12 Life Testing of Incandescent Filament Lamps
 IES LM-58-13 Method for Spectroradiometric Measurement Methods for Light Sources
 IES LM-65-14 Life Testing of Compact Fluorescent Lamps
 IES LM-66-14 Electrical and Photometric Measurements of Single-Ended Compact Fluorescent Lamps
 IES LM-79-08 Electrical and Photometric Measurements of Solid-State Lighting Products
 ANSI/IES LM-79-19 Optical and Electrical Measurements of Solid-State Lighting Products
 IES LM-80-08 and its Addendum A Measuring Lumen Maintenance of LED Light Sources
 ANSI/IES LM-80-15 Measuring Luminous Flux and Color Maintenance of LED Packages, Arrays and Modules
 IES LM-82-12 Method for the Characterization of LED Light Engines and Integrated LED Lamps for Electrical and Photometric Properties as a Function of Temperature
 IES LM-84-14 Measuring Luminous Flux and Color Maintenance of LED Lamps, Light Engines, and Luminaires
 ANSI/IES RP-16-17 Nomenclature and Definitions for Illuminating Engineering
 IES TM-21-11 and its Addendum B Projecting Long Term Lumen Maintenance of LED Sources
 IES TM-28-14 Projecting Long-Term Luminous Flux Maintenance of LED Lamps and Luminaires
 NEMA LSD 45-2009 Recommendations for Solid State Lighting Sub-Assembly Interfaces for Luminaires
 NEMA 77-2017 Temporal Light Artifacts: Test Methods and Guidance for Acceptance Criteria
 NEMA SSL 7A-2013 or SSL 7A-2015 Phase Cut Dimming for Solid State Lighting: Basic Compatibility

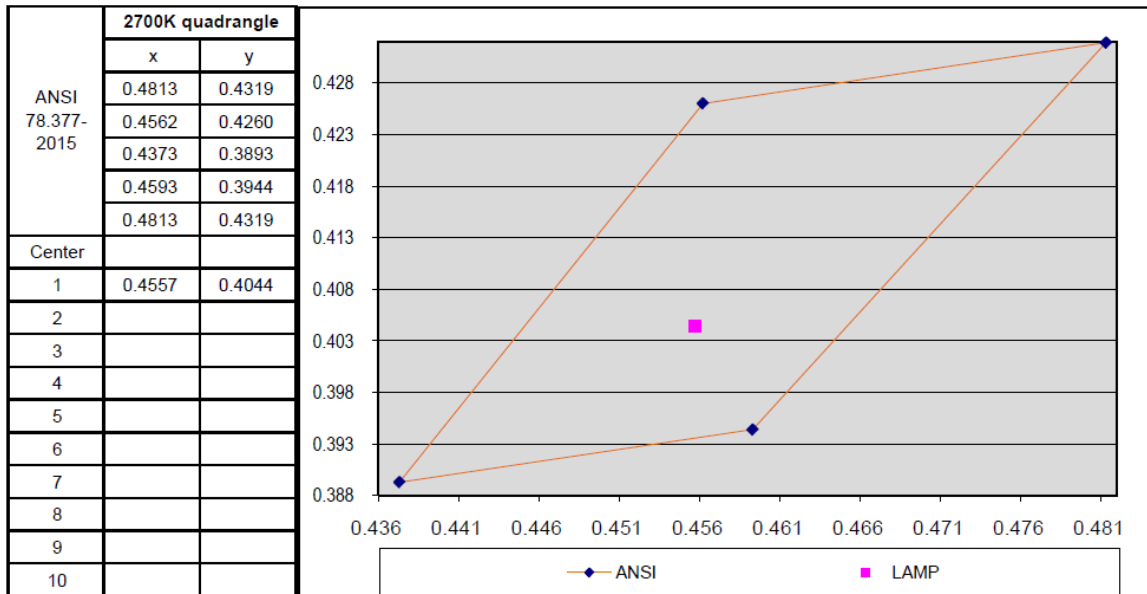
Test Data

All tests are performed at the least Efficient white light setting.

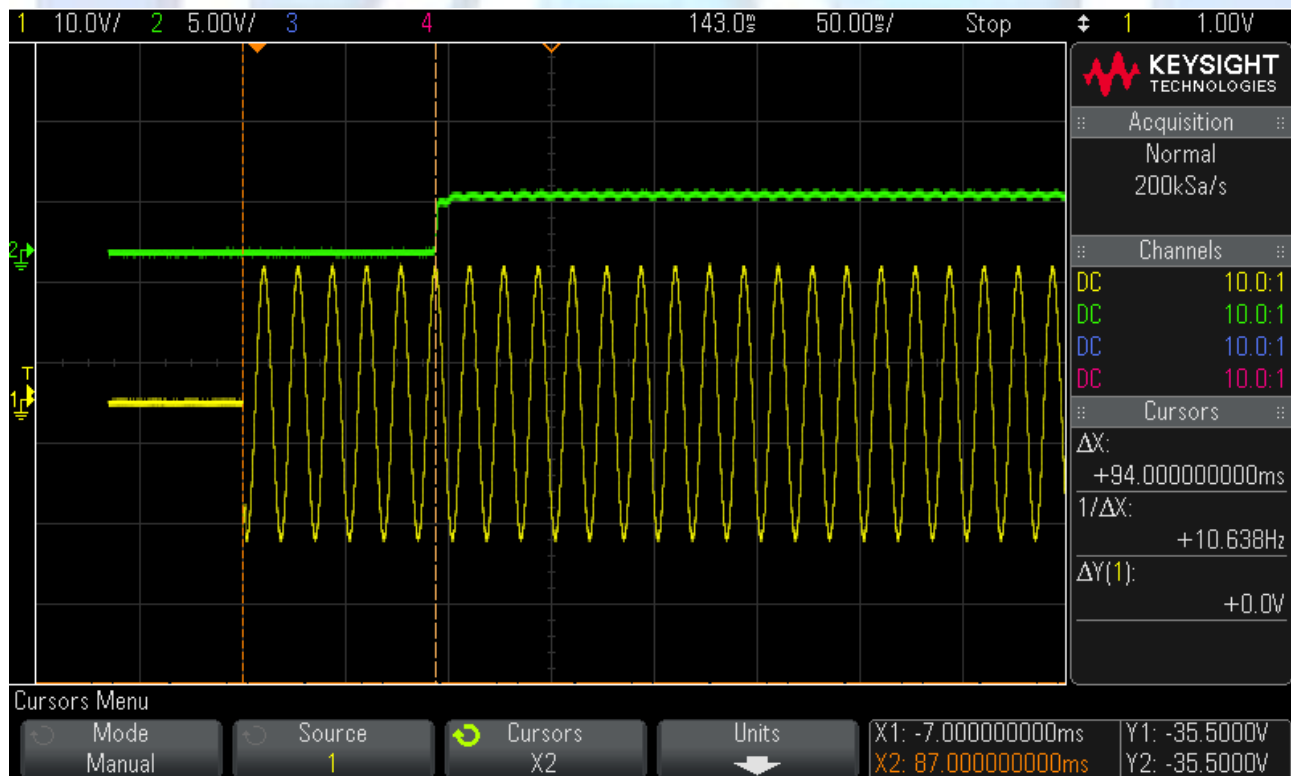
Initial Photometric and Electrical Test Data

Sample No	Test setting (For Color tunable)	Voltage (V)	Current (A)	Power (W)	Power Factor	Luminous Flux (Lumens)	Efficiency (Lumen/W)	CCT
L1	Least Efficient White light & Default White light & Most Consumptive White light 2700K	120.05	0.1177	11.93	0.8443	980.75	82.18	2710
L1	3000K	120.05	0.1163	11.79	0.8443	990.40	84.00	3034
L1	3500K	120.05	0.1157	11.73	0.8443	1020.40	86.99	3536
L1	4000K	120.05	0.1154	11.70	0.8443	1035.60	88.51	4028
L1	5000K	120.05	0.1166	11.82	0.8443	1027.30	86.91	5010
Sample No	Test setting (For Color tunable)	CRI (Ra)	R9	x (CIE 1931)	y (CIE 1931)	u' (CIE 1976)	v' (CIE 1976)	Duv (CIE 1976)
L1	Least Efficient White light & Default White light & Most Consumptive White light 2700K	83	9	0.4557	0.4044	0.2626	0.5243	-0.0020
Sample No	Test setting (For Color tunable)	Luminaire Size (inches)	Heads of Accent Light	Mini Light Output (Lumen)	Color Angular Uniformity	Color Maintenance	Transient Protection (100KHz ring wave, 2.5KV level, 7 strikes)	Standby Power (W)
L1	Least Efficient White light	7	N/A	575	0.0004	0.0037	Survival	0.0
Sample No	Test setting (For Color tunable)	Start Time (mS)	Run-up Time (S)	Driver Replaceable	Light Source Replace ability	ANSI Standard Lamp Base	Downlight IC	Downlight AT
L1	Least Efficient White light	94	N/A	Replaceable	Exception	N/A	YES	N/A
Sample No	Test setting (For Color tunable)	Mini Dimming Level	Frequency (Hz)	Audible Noise (dBA)	Lumen Maintenance	Fixture Life Hours(H)	Max SVM	Max Pst
L1	Least Efficient White light	8.70%	120.0	19.05	72.59%	50000	1.87	0.14
Sample No	Test setting (For Color tunable)	Shipped with Lighting Components	Beam Angle (Degree)	/	/	/	/	/
L1	Least Efficient White light	Yes	106.7	/	/	/	/	/

7-Step Chromaticity Quadrangles Test Data

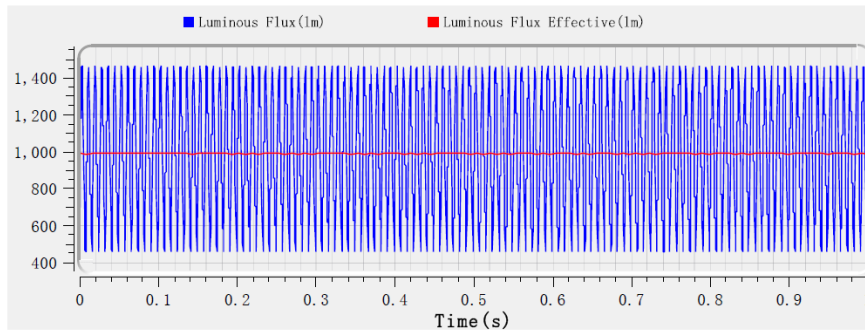


Start Time Plots

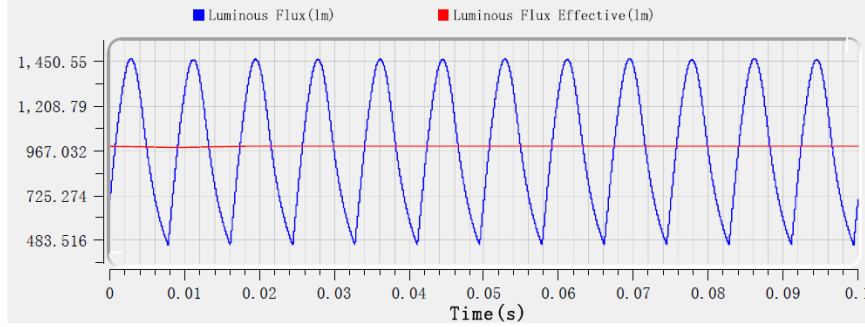


Frequency

Global Waveform(0-1.000s)



Local Waveform(0.000-0.100s)



Zonal Lumen Density

Luminaire Type	Cove Mount/ Under Cabinet	Downlights/ downlight retrofits	Accent Lights	Outdoor, Wall-, Porch-, Pendant-, and Post- Mounted Luminaires		Portable Desk Task
Zone	0-60°	0-60°	0-60°	0°- 85°	>90°	0-75°
Distribution	≥60%	≥75%	≥80%	≥95%	≤0.5%	≥60%
Result	N/A	79.6%	N/A	N/A	N/A	N/A

Color Angular Uniformity

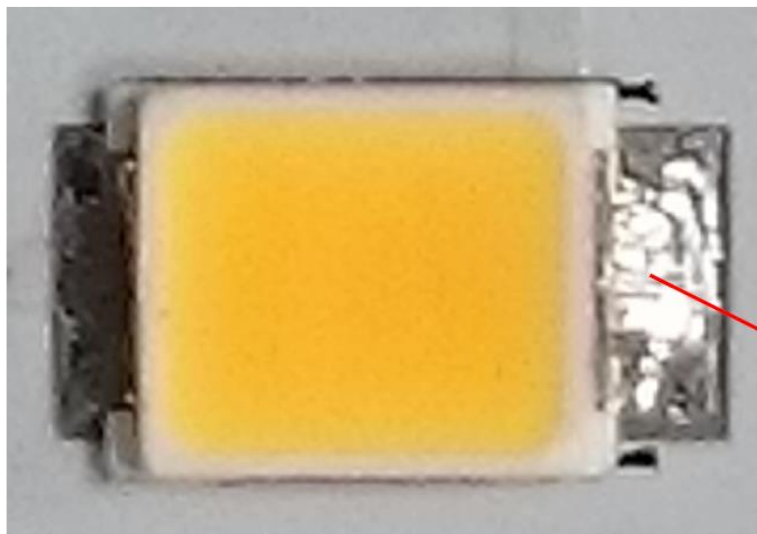
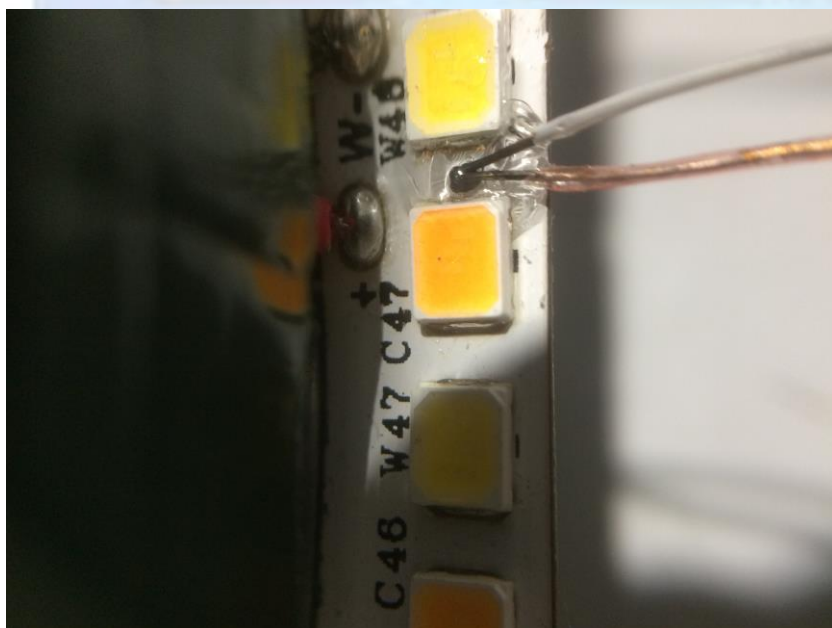
Gamma\C	C0			C90		
	CIE u'	CIE v'	Du'v'	CIE u'	CIE v'	Du'v'
-54	0.2636	0.5244	0.0002	0.2634	0.5241	0.0001
-53	0.2635	0.5244	0.0001	0.2635	0.5241	0.0002
-52	0.2635	0.5244	0.0001	0.2634	0.5241	0.0001
-51	0.2638	0.5245	0.0004	0.2634	0.5241	0.0001
-50	0.2637	0.5245	0.0003	0.2636	0.5242	0.0002
-49	0.2637	0.5245	0.0003	0.2636	0.5242	0.0002
-48	0.2637	0.5245	0.0003	0.2635	0.5241	0.0002
-47	0.2637	0.5245	0.0003	0.2635	0.5242	0.0001
-46	0.2636	0.5245	0.0002	0.2635	0.5242	0.0001
-45	0.2636	0.5245	0.0002	0.2635	0.5242	0.0001
-44	0.2636	0.5244	0.0002	0.2634	0.5242	0.0000
-43	0.2636	0.5244	0.0002	0.2634	0.5242	0.0000
-42	0.2635	0.5244	0.0001	0.2636	0.5242	0.0002
-41	0.2635	0.5244	0.0001	0.2636	0.5242	0.0002
-40	0.2636	0.5245	0.0002	0.2636	0.5242	0.0002
-39	0.2636	0.5244	0.0002	0.2635	0.5242	0.0001
-38	0.2636	0.5244	0.0002	0.2635	0.5242	0.0001
-37	0.2635	0.5244	0.0001	0.2635	0.5242	0.0001
-36	0.2635	0.5244	0.0001	0.2635	0.5242	0.0001
-35	0.2635	0.5244	0.0001	0.2634	0.5242	0.0000
-34	0.2636	0.5244	0.0002	0.2634	0.5242	0.0000
-33	0.2635	0.5244	0.0001	0.2634	0.5242	0.0000
-32	0.2635	0.5244	0.0001	0.2635	0.5242	0.0001
-31	0.2635	0.5244	0.0001	0.2636	0.5243	0.0003
-30	0.2634	0.5244	0.0001	0.2635	0.5242	0.0001
-29	0.2634	0.5244	0.0001	0.2635	0.5242	0.0001
-28	0.2634	0.5244	0.0001	0.2635	0.5243	0.0002
-27	0.2635	0.5244	0.0001	0.2635	0.5242	0.0001
-26	0.2635	0.5244	0.0001	0.2635	0.5242	0.0001
-25	0.2635	0.5244	0.0001	0.2634	0.5242	0.0000
-24	0.2634	0.5244	0.0001	0.2634	0.5242	0.0000
-23	0.2634	0.5244	0.0001	0.2634	0.5242	0.0000
-22	0.2634	0.5244	0.0001	0.2634	0.5242	0.0000
-21	0.2634	0.5244	0.0001	0.2634	0.5242	0.0000
-20	0.2633	0.5244	0.0001	0.2634	0.5242	0.0000
-19	0.2633	0.5244	0.0001	0.2633	0.5242	0.0001
-18	0.2633	0.5244	0.0001	0.2633	0.5242	0.0001
-17	0.2634	0.5244	0.0001	0.2633	0.5242	0.0001
-16	0.2634	0.5243	0.0000	0.2633	0.5242	0.0001
-15	0.2634	0.5244	0.0001	0.2633	0.5242	0.0001
-14	0.2634	0.5243	0.0000	0.2632	0.5242	0.0002
-13	0.2634	0.5244	0.0001	0.2632	0.5242	0.0002
-12	0.2633	0.5243	0.0001	0.2632	0.5242	0.0002
-11	0.2633	0.5243	0.0001	0.2632	0.5242	0.0002
-10	0.2633	0.5243	0.0001	0.2632	0.5242	0.0002
-9	0.2633	0.5243	0.0001	0.2632	0.5242	0.0002
-8	0.2633	0.5243	0.0001	0.2632	0.5242	0.0002
-7	0.2633	0.5243	0.0001	0.2632	0.5242	0.0002
-6	0.2633	0.5243	0.0001	0.2632	0.5242	0.0002
-5	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002
-4	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002
-3	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002
-2	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002
-1	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002
0	0.2635	0.5246	0.0003	0.2635	0.5246	0.0004
1	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002
2	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002
3	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002
4	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002

5	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002
6	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002
7	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002
8	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002
9	0.2633	0.5243	0.0001	0.2633	0.5242	0.0001
10	0.2632	0.5243	0.0002	0.2632	0.5242	0.0002
11	0.2632	0.5243	0.0002	0.2633	0.5242	0.0001
12	0.2633	0.5243	0.0001	0.2633	0.5242	0.0001
13	0.2633	0.5243	0.0001	0.2633	0.5242	0.0001
14	0.2633	0.5243	0.0001	0.2633	0.5242	0.0001
15	0.2633	0.5243	0.0001	0.2632	0.5242	0.0002
16	0.2633	0.5243	0.0001	0.2632	0.5242	0.0002
17	0.2633	0.5243	0.0001	0.2632	0.5242	0.0002
18	0.2634	0.5243	0.0000	0.2632	0.5242	0.0002
19	0.2633	0.5243	0.0001	0.2633	0.5242	0.0001
20	0.2634	0.5243	0.0000	0.2633	0.5242	0.0001
21	0.2634	0.5243	0.0000	0.2633	0.5242	0.0001
22	0.2634	0.5243	0.0000	0.2633	0.5242	0.0001
23	0.2634	0.5243	0.0000	0.2633	0.5242	0.0001
24	0.2635	0.5243	0.0001	0.2634	0.5242	0.0000
25	0.2635	0.5243	0.0001	0.2634	0.5243	0.0001
26	0.2635	0.5243	0.0001	0.2633	0.5242	0.0001
27	0.2636	0.5243	0.0002	0.2633	0.5242	0.0001
28	0.2635	0.5243	0.0001	0.2633	0.5242	0.0001
29	0.2635	0.5243	0.0001	0.2633	0.5242	0.0001
30	0.2636	0.5243	0.0002	0.2634	0.5242	0.0000
31	0.2636	0.5243	0.0002	0.2634	0.5242	0.0000
32	0.2636	0.5243	0.0002	0.2634	0.5242	0.0000
33	0.2634	0.5243	0.0000	0.2635	0.5243	0.0002
34	0.2634	0.5243	0.0000	0.2634	0.5242	0.0000
35	0.2635	0.5243	0.0001	0.2634	0.5242	0.0000
36	0.2635	0.5242	0.0001	0.2634	0.5242	0.0000
37	0.2635	0.5243	0.0001	0.2634	0.5242	0.0000
38	0.2635	0.5242	0.0001	0.2635	0.5242	0.0001
39	0.2635	0.5242	0.0001	0.2635	0.5242	0.0001
40	0.2636	0.5242	0.0002	0.2634	0.5242	0.0000
41	0.2636	0.5242	0.0002	0.2634	0.5242	0.0000
42	0.2636	0.5242	0.0002	0.2635	0.5242	0.0001
43	0.2634	0.5242	0.0001	0.2635	0.5242	0.0001
44	0.2634	0.5242	0.0001	0.2633	0.5242	0.0001
45	0.2634	0.5242	0.0001	0.2634	0.5242	0.0000
46	0.2635	0.5242	0.0001	0.2634	0.5242	0.0000
47	0.2635	0.5242	0.0001	0.2634	0.5242	0.0000
48	0.2635	0.5242	0.0001	0.2633	0.5242	0.0001
49	0.2635	0.5242	0.0001	0.2634	0.5242	0.0000
50	0.2635	0.5242	0.0001	0.2634	0.5242	0.0000
51	0.2633	0.5241	0.0003	0.2634	0.5242	0.0000
52	0.2634	0.5241	0.0002	0.2635	0.5242	0.0001
53	0.2634	0.5241	0.0002	0.2635	0.5242	0.0001
54	0.2634	0.5241	0.0002	0.2636	0.5242	0.0002

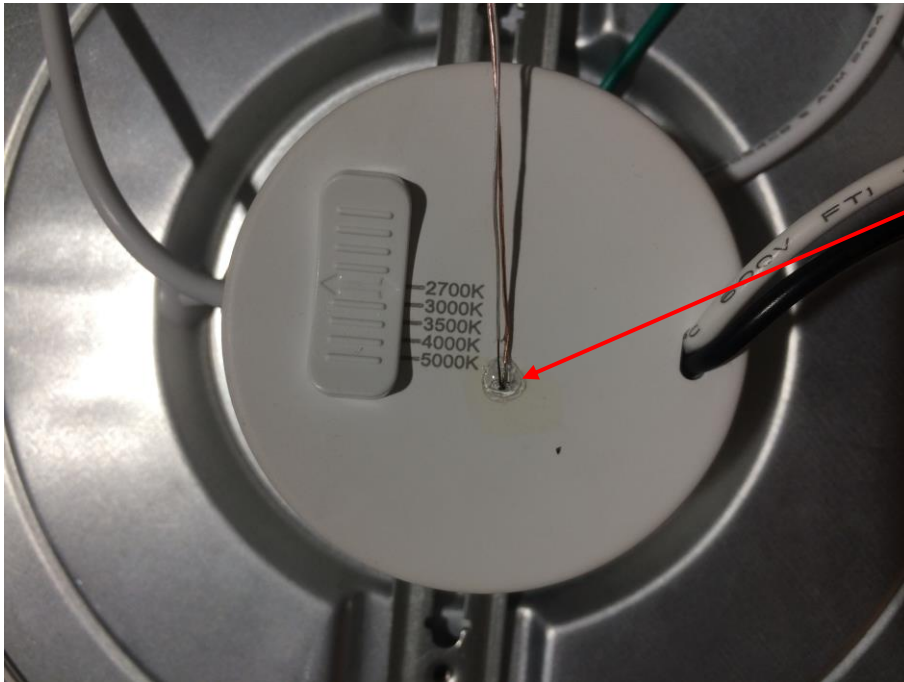
Driver TMP_c/ LED Forward Current/TMP_{LED} Test Data

Model No.	LED Package Manufacture	LED Package Model	Max In Situ TMP _{LED} (°C)	Drive Current of LED (mA)	Driver T _c (°C)	In Situ Driver TMP _c (°C)
LOC-7RDDL-12WMCCT	Bridgelux Inc.	BXEN-27E-13H-9A	69.4	27.0	90.0	56.8

Note: Using a FLUKE 179 DIGITAL MULTIMETER, the total drive current from the LED driver to the LED board was measured to be 162mA under test conditions. This was further distributed to an LED array comprising of 6 parallel circuits, each having 8 LEDs in series. Hence the forward current of each individual LED is calculated to be $162/6 = 27\text{mA}$.

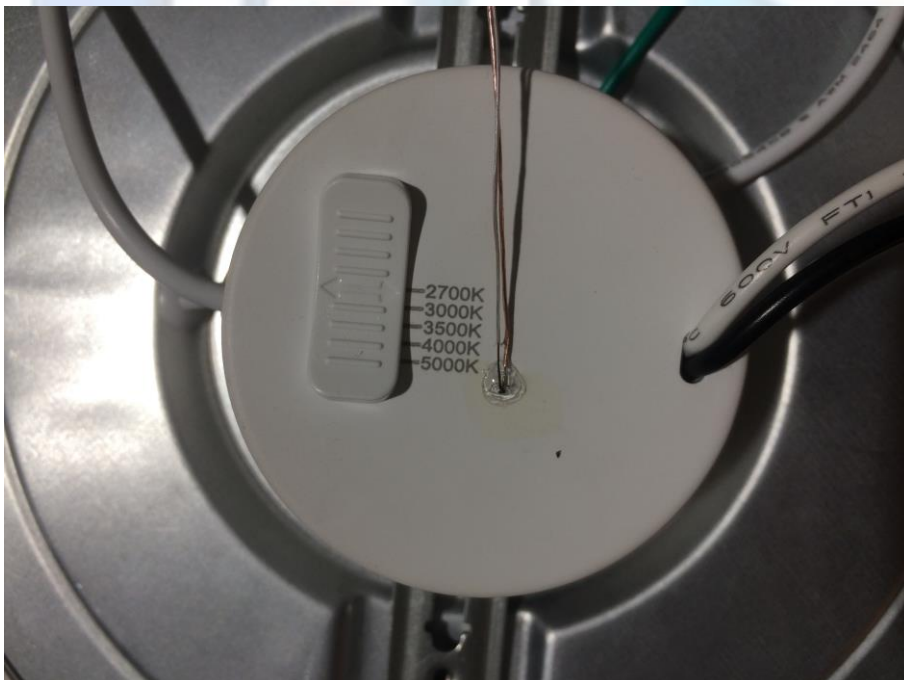
Temperature Measurement Point in LM-80 Report**T_s****In Situ LED Lighting Source Temperature Measurement Point**

LED Driver Hot Spot Location and TC



Tc

In Situ LED Driver Temperature Measure Point Location



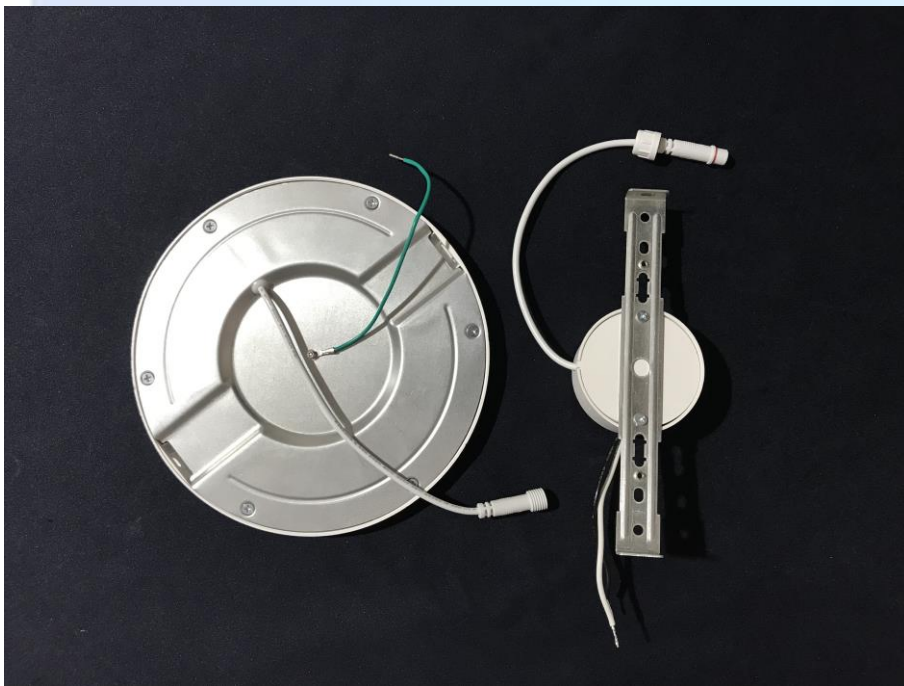
Appendix A

Data Set 1	
Case Temperature	85 °C
Measurement Current	100 mA

**Table 1-4
Chromaticity Shift**

Sample No.	Chromaticity Shift $\Delta u'v'$										
	0 h	1000 h	2000 h	3000 h	4000 h	5000 h	6000 h	7000 h	8000 h	9000 h	10,000 h
15060102-1	0.0000	0.0001	0.0003	0.0008	0.0010	0.0014	0.0014	0.0017	0.0018	0.0018	0.0021
15060102-2	0.0000	0.0006	0.0009	0.0010	0.0014	0.0021	0.0022	0.0024	0.0027	0.0026	0.0023
15060102-3	0.0000	0.0003	0.0005	0.0010	0.0013	0.0019	0.0022	0.0026	0.0033	0.0036	0.0035
15060102-4	0.0000	0.0001	0.0003	0.0007	0.0011	0.0014	0.0016	0.0016	0.0019	0.0014	0.0016
15060102-5	0.0000	0.0003	0.0006	0.0012	0.0017	0.0022	0.0027	0.0025	0.0027	0.0024	0.0029
15060102-6	0.0000	0.0002	0.0004	0.0004	0.0009	0.0014	0.0023	0.0026	0.0029	0.0029	0.0027
15060102-7	0.0000	0.0001	0.0003	0.0006	0.0009	0.0013	0.0017	0.0014	0.0021	0.0025	0.0012
15060102-8	0.0000	0.0002	0.0005	0.0007	0.0009	0.0012	0.0017	0.0015	0.0020	0.0019	0.0016
15060102-9	0.0000	0.0002	0.0005	0.0011	0.0013	0.0017	0.0019	0.0019	0.0024	0.0019	0.0019
15060102-10	0.0000	0.0003	0.0007	0.0013	0.0016	0.0021	0.0025	0.0021	0.0024	0.0019	0.0022
15060102-11	0.0000	0.0003	0.0006	0.0009	0.0012	0.0020	0.0023	0.0021	0.0020	0.0017	0.0022
15060102-12	0.0000	0.0001	0.0004	0.0010	0.0012	0.0017	0.0023	0.0021	0.0027	0.0029	0.0026
15060102-13	0.0000	0.0002	0.0004	0.0007	0.0011	0.0016	0.0021	0.0018	0.0024	0.0021	0.0022
15060102-14	0.0000	0.0003	0.0007	0.0011	0.0012	0.0020	0.0026	0.0026	0.0029	0.0027	0.0034
15060102-15	0.0000	0.0002	0.0003	0.0007	0.0011	0.0019	0.0026	0.0030	0.0037	0.0033	0.0037
15060102-16	0.0000	0.0001	0.0005	0.0009	0.0015	0.0020	0.0025	0.0022	0.0026	0.0022	0.0031
15060102-17	0.0000	0.0003	0.0006	0.0007	0.0011	0.0014	0.0016	0.0017	0.0022	0.0023	0.0025
15060102-18	0.0000	0.0003	0.0005	0.0010	0.0016	0.0020	0.0028	0.0026	0.0031	0.0030	0.0032
15060102-19	0.0000	0.0002	0.0004	0.0006	0.0011	0.0015	0.0018	0.0018	0.0023	0.0025	0.0020
15060102-20	0.0000	0.0001	0.0004	0.0006	0.0008	0.0011	0.0020	0.0019	0.0025	0.0018	0.0016
15060102-21	0.0000	0.0002	0.0004	0.0006	0.0009	0.0015	0.0027	0.0028	0.0030	0.0023	0.0025
15060102-22	0.0000	0.0001	0.0003	0.0006	0.0008	0.0013	0.0019	0.0019	0.0022	0.0017	0.0022
15060102-23	0.0000	0.0004	0.0007	0.0009	0.0011	0.0016	0.0020	0.0023	0.0029	0.0019	0.0022
15060102-24	0.0000	0.0002	0.0003	0.0007	0.0011	0.0018	0.0026	0.0030	0.0035	0.0028	0.0028
15060102-25	0.0000	0.0001	0.0005	0.0011	0.0017	0.0024	0.0026	0.0030	0.0030	0.0026	0.0027
Avg.	0.0000	0.0002	0.0005	0.0008	0.0012	0.0017	0.0022	0.0022	0.0026	0.0023	0.0024
Med.	0.0000	0.0002	0.0005	0.0008	0.0011	0.0017	0.0022	0.0021	0.0026	0.0023	0.0023
σ	0.0000	0.0001	0.0002	0.0002	0.0003	0.0003	0.0004	0.0005	0.0005	0.0005	0.0006
Min.	0.0000	0.0001	0.0003	0.0004	0.0008	0.0011	0.0014	0.0014	0.0018	0.0014	0.0012
Max.	0.0000	0.0006	0.0009	0.0013	0.0017	0.0024	0.0028	0.0030	0.0037	0.0036	0.0037

EUT Photo



Annex

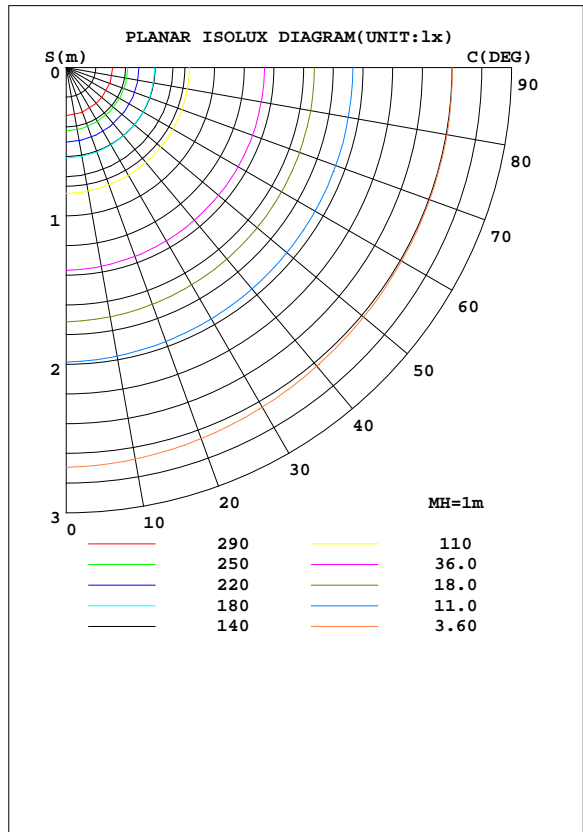
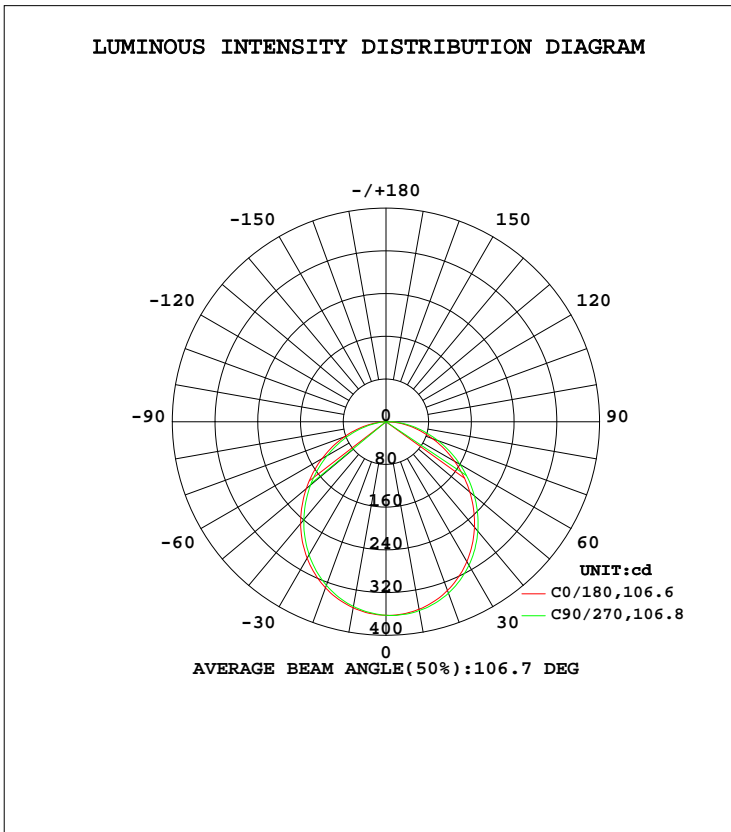
Please see the next page for the luminous intensity test data

-----END-----

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.04V I:0.1177A P:11.934W PF:0.8443 Freq:60.00Hz Lamp Flux:980.749x1 lm		
NAME: Downlight Surface Mount	TYPE: LOC-7RDDL-12WMCCT	WEIGHT: 0.41 kg
SPEC.: 12W 960lumen	DIM.: D=0.18	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 3.14*0.07*0.07	Shielding Angle: N/A

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 82.18 lm/W
MODEL	LOC-7RDDL-12WMCCT	I _{max} (cd)	363.1	S/MH(C0/180)	1.24	
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	1.27	
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	980.75	η UP, DN(C0-180)	0.0,46.9	
NOMINAL FLUX(lm)	980.749	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,53.1	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25	
TEST VOLTAGE(V)	120	η down(%)	100.0	CIBSE SHR MAX	1.35	



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:zack
 Test Date:2020-06-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:55.4%
 Test Distance:2.468m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lamp
10	353.8	351.9	351.4	351.9	356.5	358.4	359.0	357.9	0- 10	34.25	34.25	3.49
20	331.2	327.4	326.0	327.7	336.3	340.3	341.7	339.4	10- 20	97.65	131.9	13.4
30	295.2	289.7	287.9	290.4	302.7	308.6	310.6	307.2	20- 30	146.4	278.3	28.4
40	248.7	241.7	239.3	242.8	257.8	265.3	267.6	263.4	30- 40	173.4	451.7	46.1
50	195.0	187.1	184.5	188.5	205.1	213.4	216.1	211.7	40- 50	175.4	627.1	63.9
60	138.5	130.3	127.4	131.8	148.7	157.1	160.1	155.4	50- 60	153.9	781.0	79.6
70	83.21	74.81	72.35	76.83	92.96	101.1	103.6	99.36	60- 70	114.4	895.3	91.3
80	33.49	26.40	24.26	28.30	42.42	49.25	51.38	47.59	70- 80	65.68	961.0	98
90	0.0019	0.0000	0.0009	0.0000	1.962	7.060	8.525	5.167	80- 90	19.38	980.4	100
100	0.0018	0	0.0006	0.0003	0	0	0	0	90-100	0.3319	980.7	100
110	0.0030	0.0000	0.0000	0.0000	0.0006	0.0003	0.0003	0.0000	100-110	0.0007	980.7	100
120	0.0036	0.0006	0.0029	0.0006	0.0018	0.0015	0.0015	0.0021	110-120	0.0013	980.7	100
130	0.0048	0.0024	0.0021	0.0015	0.0024	0.0021	0.0024	0.0033	120-130	0.0017	980.7	100
140	0.0042	0.0036	0.0033	0.0033	0.0045	0.0030	0.0030	0.0051	130-140	0.0027	980.7	100
150	0.0054	0.0045	0.0042	0.0054	0.0054	0.0051	0.0048	0.0057	140-150	0.0029	980.7	100
160	0.0057	0.0051	0.0054	0.0042	0.0057	0.0054	0.0054	0.0060	150-160	0.0023	980.7	100
170	0.0057	0.0054	0.0060	0.0054	0.0063	0.0057	0.0051	0.0054	160-170	0.0015	980.7	100
180	0	0	0	0	0	0	0	0	170-180	0.0004	980.7	100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 540.72 lm

%lum = 55.1%
 %lamp = 55.1%

Conical surface Flux(120deg): 780.95 lm

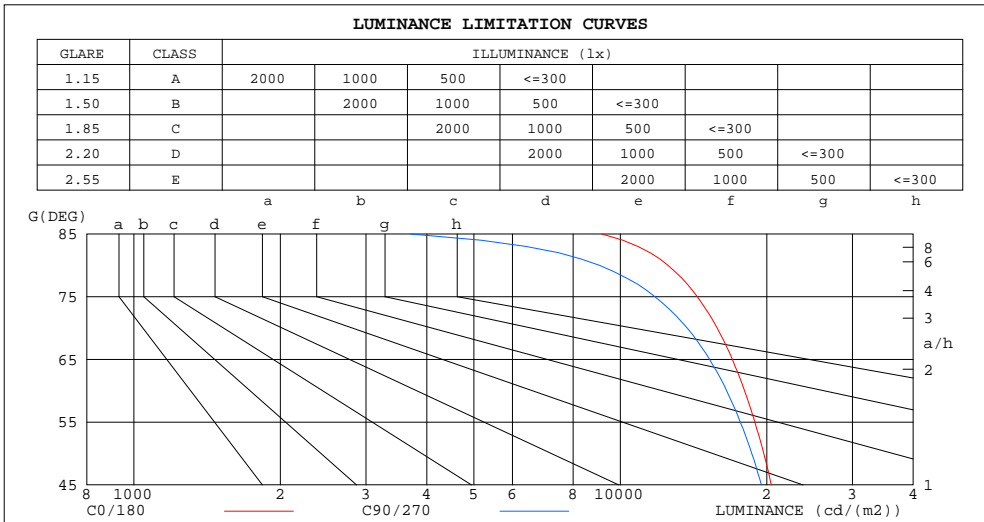
%lum = 79.6%
 %lamp = 79.6%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:zack
 Test Date:2020-06-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:55.4%
 Test Distance:2.468m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.04V I:0.1177A P:11.934W PF:0.8443 Freq:60.00Hz Lamp Flux:980.749x1 lm		
NAME: Downlight Surface Mount	TYPE: LOC-7RDDL-12WMCCT	WEIGHT: 0.41 kg
SPEC.: 12W 960lumen	DIM.: D=0.18	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 3.14*0.07*0.07	Shielding Angle: N/A



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	9162	3703
80	12536	9066
75	14397	11783
70	15811	13727
65	16999	15265
60	18002	16538
55	18915	17640
50	19713	18626
45	20441	19493

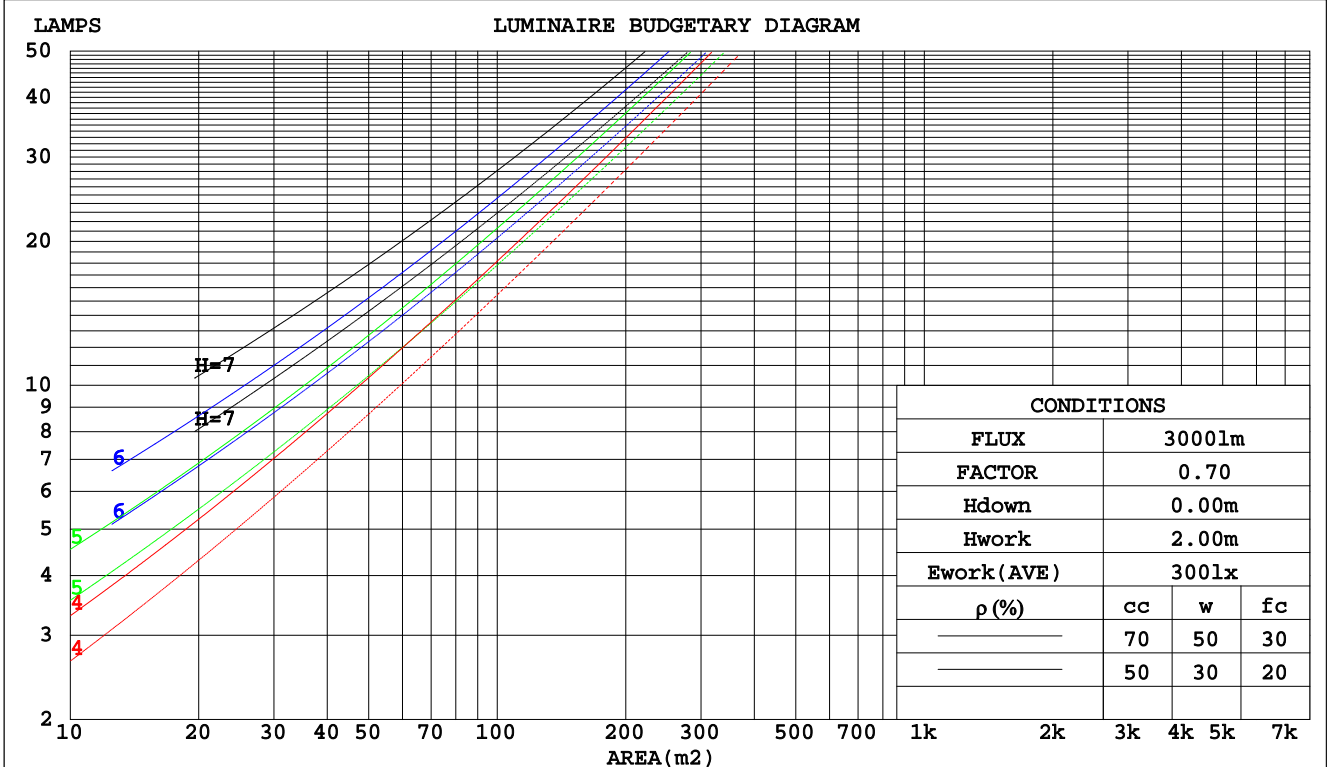
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:zack
 Test Date:2020-06-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:55.4%
 Test Distance:2.468m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.04V I:0.1177A P:11.934W PF:0.8443 Freq:60.00Hz Lamp Flux:980.749x1 lm		
NAME: Downlight Surface Mount	TYPE: LOC-7RDDL-12WMCCT	WEIGHT: 0.41 kg
SPEC.: 12W 960lumen	DIM.: D=0.18	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 3.14*0.07*0.07	Shielding Angle: N/A

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.04	.00	.96	1.02	.98	.94	.98	.94	.91	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.78	.89	.83	.77	.85	.80	.76	.82	.78	.74	.79	.75	.72	.70
3.0	.80	.72	.65	.78	.71	.65	.75	.69	.64	.73	.67	.62	.70	.65	.61	.59
4.0	.71	.62	.55	.70	.61	.55	.67	.60	.54	.65	.59	.54	.63	.57	.53	.51
5.0	.63	.54	.48	.62	.54	.48	.60	.53	.47	.58	.52	.47	.56	.51	.46	.44
6.0	.57	.48	.42	.56	.48	.42	.54	.47	.41	.53	.46	.41	.51	.45	.41	.38
7.0	.52	.43	.37	.51	.43	.37	.49	.42	.37	.48	.41	.36	.47	.41	.36	.34
8.0	.47	.39	.33	.47	.39	.33	.45	.38	.33	.44	.37	.33	.43	.37	.32	.30
9.0	.43	.35	.30	.43	.35	.30	.42	.35	.30	.41	.34	.29	.40	.34	.29	.27
10.0	.40	.32	.27	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.27	.25



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.1DEG
 Operators: zack
 Test Date: 2020-06-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity: 55.4%
 Test Distance: 2.468m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:120.04V I:0.1177A P:11.934W PF:0.8443 Freq:60.00Hz Lamp Flux:980.749x1 lm		
NAME: Downlight Surface Mount	TYPE: LOC-7RDDL-12WMCCT	WEIGHT: 0.41 kg
SPEC.: 12W 960lumen	DIM.: D=0.18	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 3.14*0.07*0.07	Shielding Angle: N/A

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.306	.174	.055	.299	.171	.054	.286	.164	.052	.274	.158	.051	.263	.152	.049	
2.0	.288	.158	.048	.282	.155	.048	.270	.150	.047	.259	.145	.046	.249	.141	.044	
3.0	.267	.142	.042	.261	.140	.042	.251	.136	.041	.241	.132	.041	.232	.129	.040	
4.0	.246	.128	.038	.241	.126	.037	.232	.123	.037	.224	.120	.036	.216	.117	.036	
5.0	.228	.116	.034	.224	.115	.033	.215	.112	.033	.208	.110	.033	.201	.107	.032	
6.0	.211	.106	.030	.208	.105	.030	.200	.103	.030	.194	.101	.030	.187	.099	.029	
7.0	.197	.097	.028	.194	.096	.027	.187	.095	.027	.181	.093	.027	.175	.091	.027	
8.0	.184	.090	.025	.181	.089	.025	.175	.088	.025	.170	.086	.025	.165	.085	.025	
9.0	.173	.083	.023	.170	.083	.023	.165	.081	.023	.160	.080	.023	.155	.079	.023	
10.0	.162	.078	.022	.160	.077	.022	.155	.076	.021	.151	.075	.021	.147	.074	.021	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.191	.191	.191	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.180	.156	.135	.154	.134	.116	.106	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.172	.132	.099	.147	.114	.085	.101	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.164	.115	.075	.141	.099	.065	.097	.069	.046	.056	.040	.027	.018	.013	.009	
4.0	.156	.101	.059	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.149	.091	.048	.128	.079	.042	.088	.055	.029	.051	.032	.017	.016	.011	.006	
6.0	.142	.082	.040	.122	.071	.035	.084	.050	.024	.049	.029	.015	.016	.010	.005	
7.0	.135	.075	.034	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.004	
9.0	.123	.065	.026	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.023	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:zack
 Test Date:2020-06-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:55.4%
 Test Distance:2.468m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.04V I:0.1177A P:11.934W PF:0.8443 Freq:60.00Hz Lamp Flux:980.749x1 lm		
NAME: Downlight Surface Mount	TYPE: LOC-7RDDL-12WMCCT	WEIGHT: 0.41 kg
SPEC.: 12W 960lumen	DIM.: D=0.18	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 3.14*0.07*0.07	Shielding Angle: N/A

ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	22.7	24.2	23.0	24.4	24.6	22.4	23.9	22.7	24.1	24.3
3H	24.1	25.5	24.4	25.7	26.0	23.7	25.0	24.0	25.3	25.5
4H	24.6	26.0	24.9	26.2	26.5	24.1	25.4	24.4	25.7	25.9
6H	25.0	26.3	25.3	26.5	26.8	24.3	25.6	24.7	25.9	26.1
8H	25.1	26.3	25.4	26.6	26.9	24.4	25.6	24.7	25.9	26.1
12H	25.1	26.3	25.5	26.6	26.9	24.3	25.5	24.7	25.8	26.1
4H 2H	23.2	24.5	23.5	24.8	25.0	23.0	24.3	23.3	24.5	24.8
3H	24.8	25.9	25.1	26.2	26.5	24.4	25.5	24.7	25.8	26.1
4H	25.4	26.5	25.8	26.8	27.1	24.9	26.0	25.3	26.3	26.6
6H	25.9	26.8	26.3	27.2	27.5	25.3	26.2	25.7	26.5	26.9
8H	26.0	26.9	26.4	27.3	27.7	25.3	26.2	25.7	26.6	27.0
12H	26.1	26.9	26.5	27.3	27.7	25.3	26.1	25.7	26.5	26.9
8H 4H	25.6	26.4	26.0	26.8	27.2	25.1	26.0	25.5	26.4	26.8
6H	26.2	26.9	26.6	27.3	27.7	25.6	26.3	26.0	26.7	27.1
8H	26.4	27.0	26.8	27.4	27.9	25.7	26.3	26.1	26.8	27.2
12H	26.5	27.0	27.0	27.5	28.0	25.7	26.3	26.2	26.7	27.2
12H 4H	25.6	26.4	26.0	26.7	27.2	25.1	25.9	25.6	26.3	26.7
6H	26.2	26.8	26.6	27.2	27.7	25.6	26.2	26.1	26.7	27.1
8H	26.4	27.0	26.9	27.4	27.9	25.7	26.3	26.2	26.7	27.2
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
1.5H	+ 0.1 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.3				

CIE Pub.117, 980.7 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -0.1)
Area: 0.0154 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:zack
Test Date:2020-06-02

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:55.4%
Test Distance:2.468m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.04V I:0.1177A P:11.934W PF:0.8443 Freq:60.00Hz Lamp Flux:980.749x1 lm		
NAME: Downlight Surface Mount	TYPE: LOC-7RDDL-12WMCCT	WEIGHT: 0.41 kg
SPEC.: 12W 960lumen	DIM.: D=0.18	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 3.14*0.07*0.07	Shielding Angle: N/A

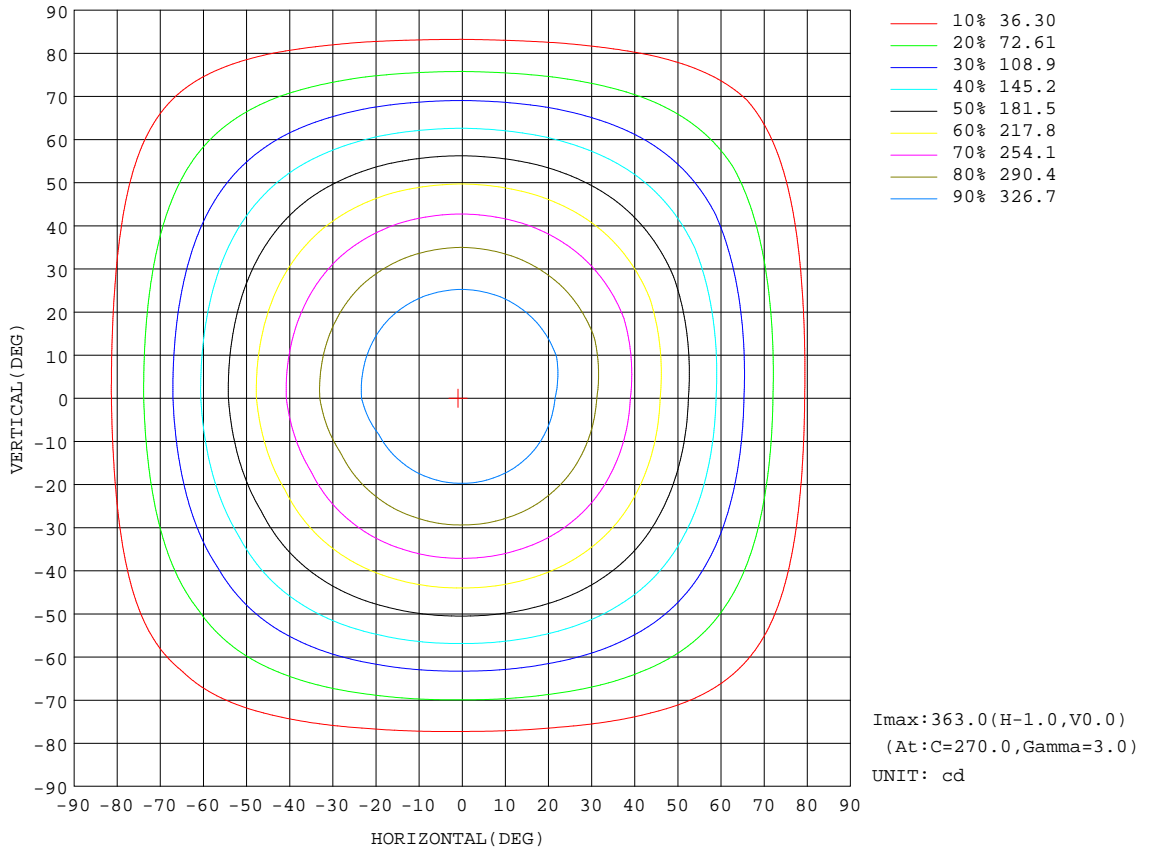
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	58	47	40	58	47	40	56	46	40	33
0.80	68	57	50	67	56	49	66	56	49	42
1.00	77	66	59	76	65	58	73	67	58	51
1.25	84	73	66	82	73	66	80	71	65	58
1.50	89	79	72	87	78	72	84	76	70	63
2.00	95	87	81	94	86	80	90	84	78	71
2.50	99	92	86	97	90	85	93	88	83	75
3.00	102	96	90	100	94	89	96	91	87	79
4.00	106	101	96	104	99	95	100	96	92	83
5.00	109	104	100	106	102	98	102	98	95	86
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:zack
 Test Date:2020-06-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:55.4%
 Test Distance:2.468m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.04V I:0.1177A P:11.934W PF:0.8443 Freq:60.00Hz Lamp Flux:980.749x1 lm		
NAME: Downlight Surface Mount	TYPE: LOC-7RDDL-12WMCCT	WEIGHT: 0.41 kg
SPEC.: 12W 960lumen	DIM.: D=0.18	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 3.14*0.07*0.07	Shielding Angle: N/A

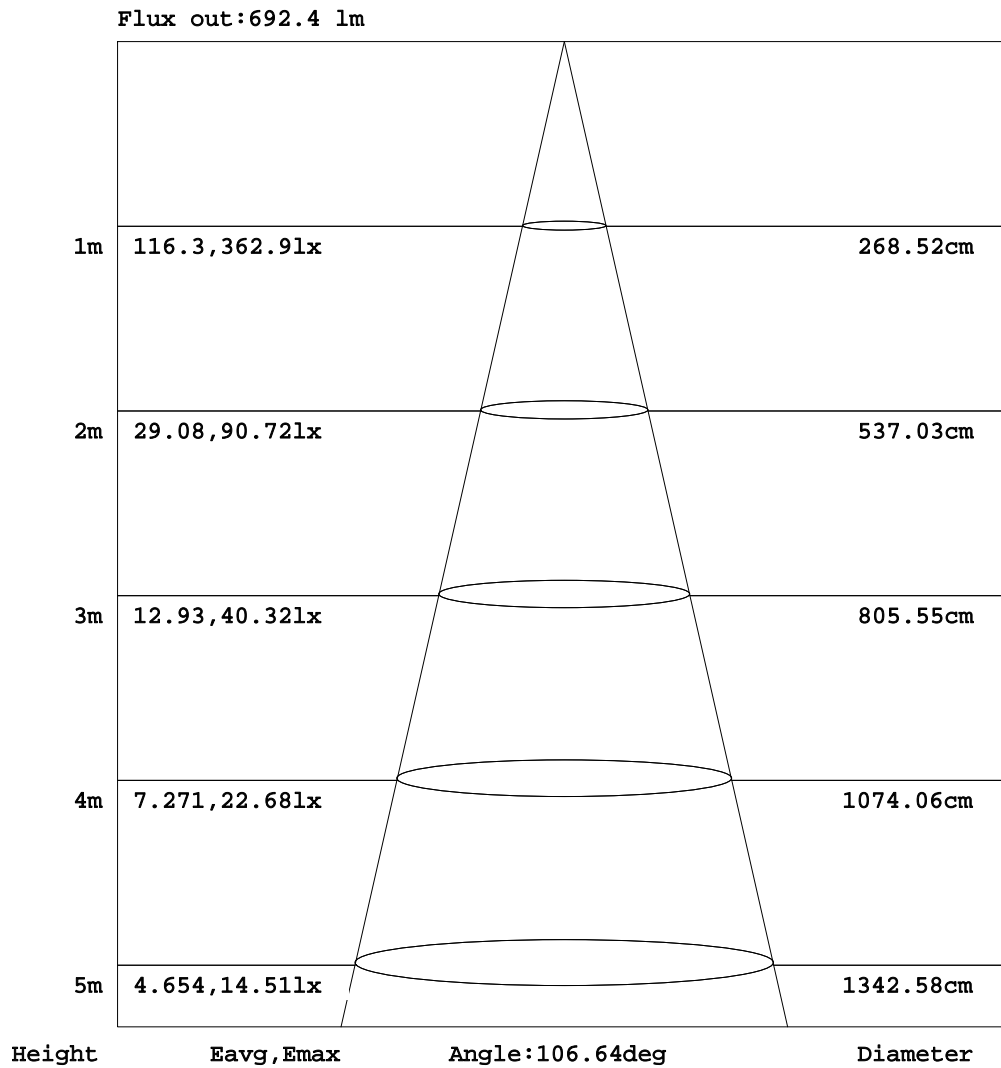


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.1DEG
 Operators: zack
 Test Date: 2020-06-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity: 55.4%
 Test Distance: 2.468m [K=1.0000]
 Remarks:

AAI Figure

Test:U:120.04V I:0.1177A P:11.934W PF:0.8443 Freq:60.00Hz Lamp Flux:980.749x1 lm		
NAME: Downlight Surface Mount	TYPE: LOC-7RDDL-12WMCCT	WEIGHT: 0.41 kg
SPEC.: 12W 960lumen	DIM.: D=0.18	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 3.14*0.07*0.07	Shielding Angle: N/A



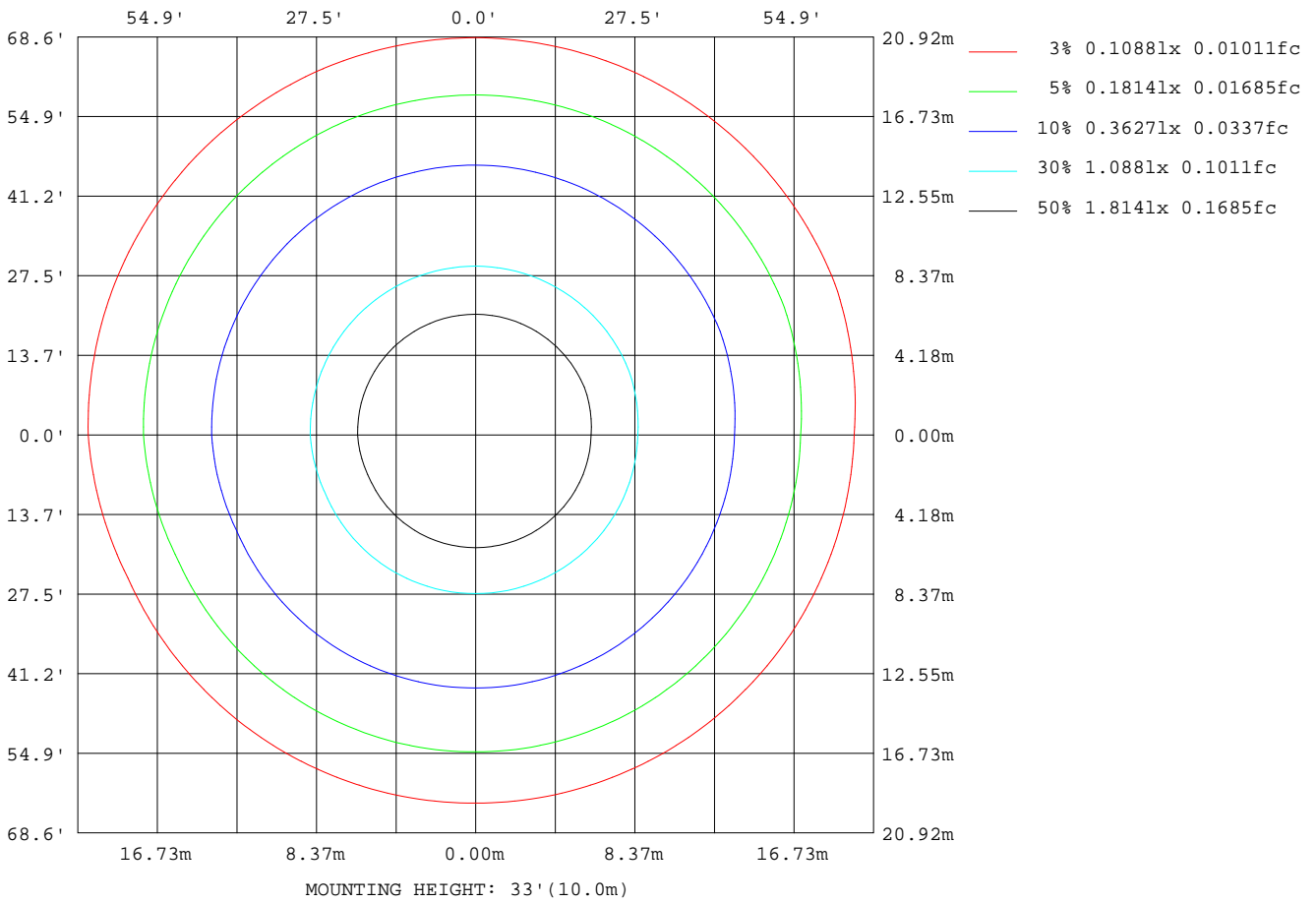
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:zack
 Test Date:2020-06-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:55.4%
 Test Distance:2.468m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:120.04V I:0.1177A P:11.934W PF:0.8443 Freq:60.00Hz Lamp Flux:980.749x1 lm		
NAME: Downlight Surface Mount	TYPE: LOC-7RDDL-12WMCCT	WEIGHT: 0.41 kg
SPEC.: 12W 960lumen	DIM.: D=0.18	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 3.14*0.07*0.07	Shielding Angle: N/A



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:zack
 Test Date:2020-06-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:55.4%
 Test Distance:2.468m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:120.04V I:0.1177A P:11.934W PF:0.8443 Freq:60.00Hz Lamp Flux:980.749x1 lm		
NAME: Downlight Surface Mount	TYPE: LOC-7RDDL-12WMCCT	WEIGHT: 0.41 kg
SPEC.: 12W 960lumen	DIM.: D=0.18	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 3.14*0.07*0.07	Shielding Angle: N/A

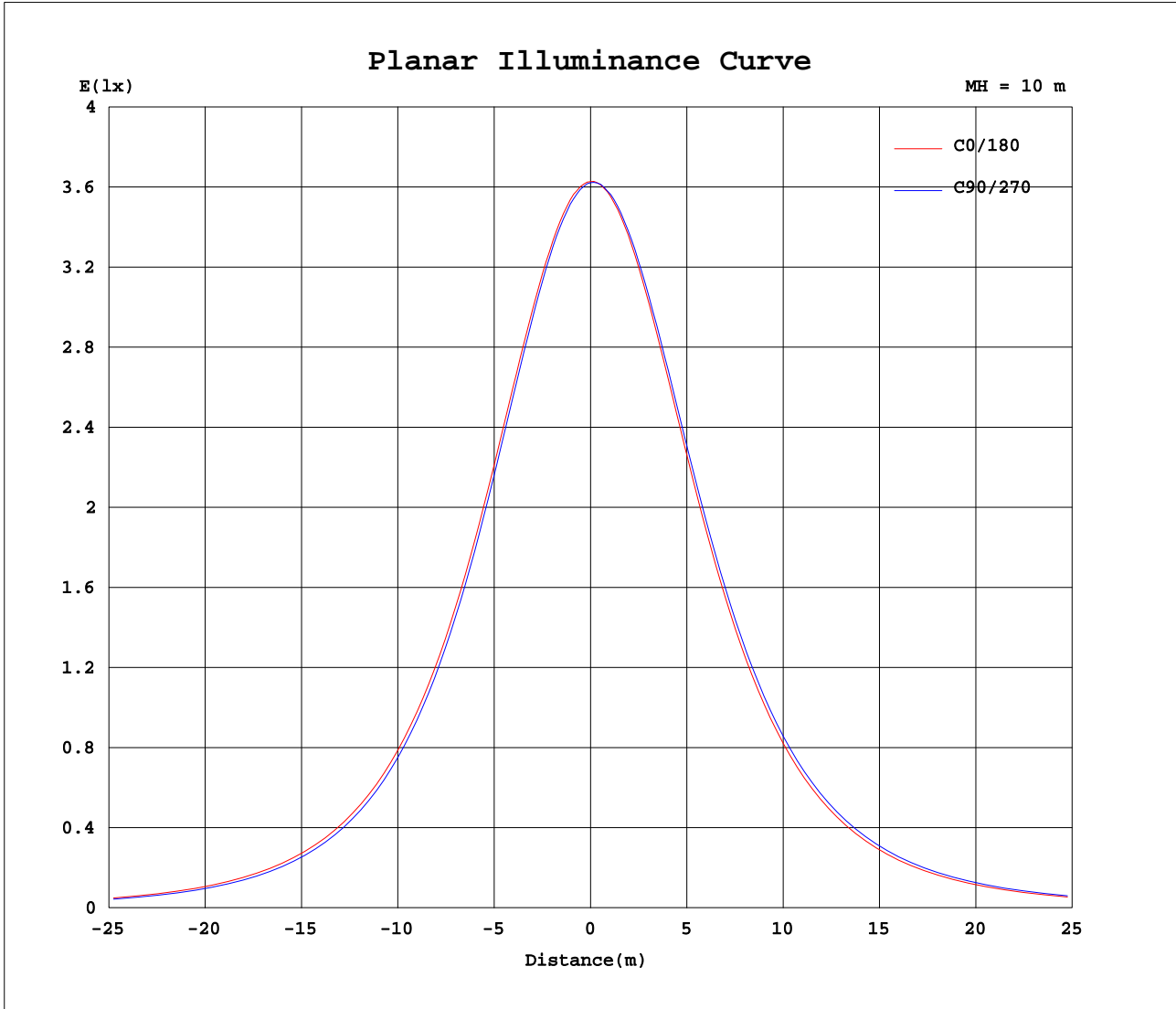
AvgL	cd/m2
L_0~180(65)av	17740
L_0~180(75)av	15563
L_0~180(85)av	12279
L_90~270(65)av	17749
L_90~270(75)av	15510
L_90~270(85)av	12464
L_45(65)av	17748
L_45(75)av	15542
L_45(85)av	12387

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:zack
Test Date:2020-06-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:55.4%
Test Distance:2.468m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:zack
Test Date:2020-06-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:55.4%
Test Distance:2.468m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.04V I:0.1177A P:11.934W PF:0.8443 Freq:60.00Hz Lamp Flux:980.749x1 lm		
NAME: Downlight Surface Mount	TYPE: LOC-7RDDL-12WMCCT	WEIGHT: 0.41 kg
SPEC.: 12W 960lumen	DIM.: D=0.18	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 3.14*0.07*0.07	Shielding Angle: N/A

Table--1

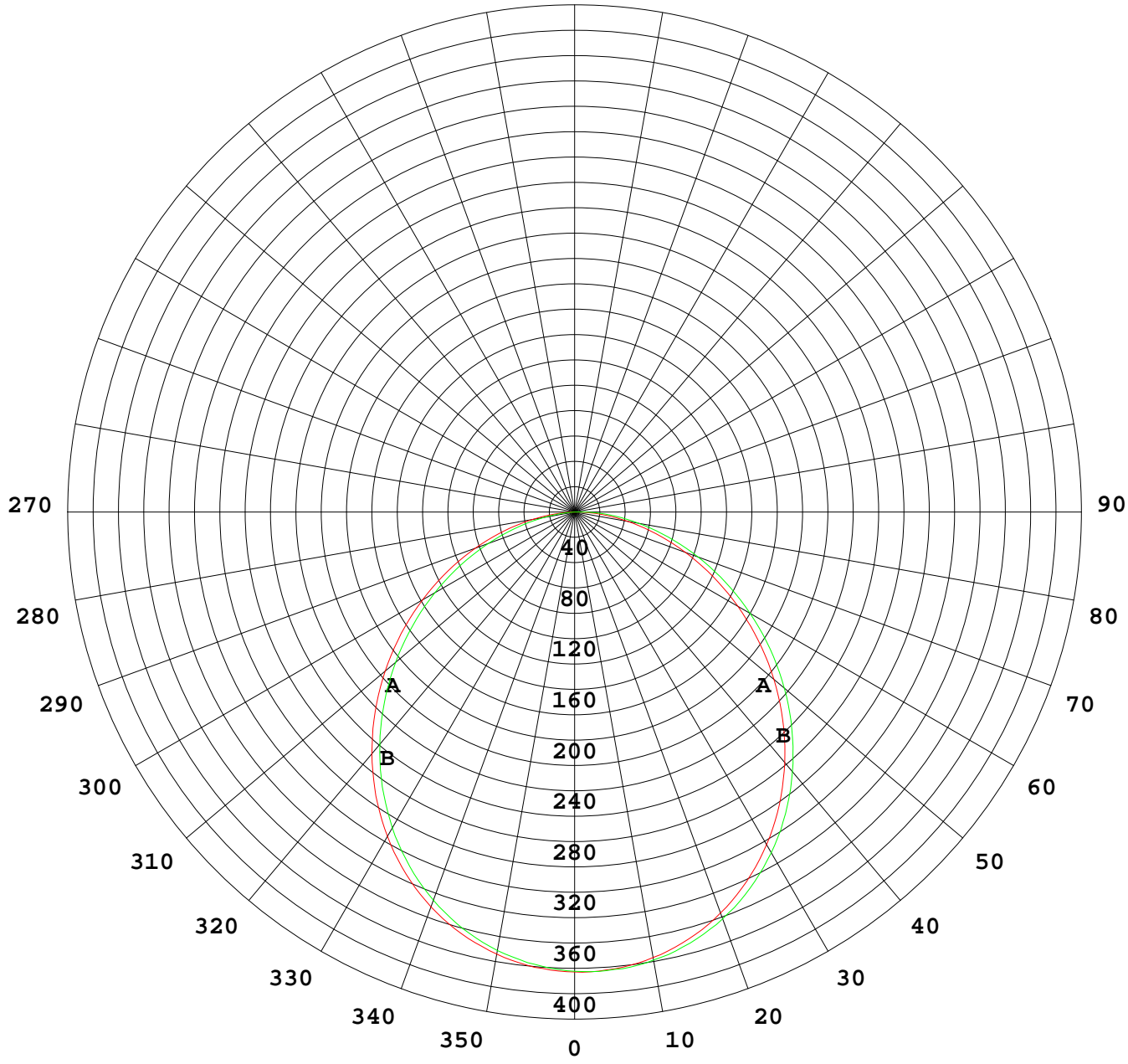
UNIT: cd

C(DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	362	362	362	362	362	362	362	362	362	362	362	362	362	362	362	362			
5	360	359	359	359	358	359	359	360	361	362	362	363	362	363	362	362			
10	354	353	352	351	351	352	352	353	356	358	358	359	359	359	358	357			
15	344	343	341	341	341	341	342	343	348	350	351	352	352	352	350	349			
20	331	329	327	326	326	327	328	330	336	339	340	341	342	341	339	337			
25	315	312	310	309	308	309	311	313	321	324	326	327	328	327	325	323			
30	295	292	290	288	288	289	290	294	303	306	309	310	311	310	307	304			
35	273	270	267	265	265	266	268	271	281	285	288	290	290	289	287	283			
40	249	245	242	240	239	240	243	246	258	262	265	267	268	266	263	260			
45	222	218	215	213	212	213	216	220	232	237	240	242	243	241	238	235			
50	195	191	187	185	184	186	188	192	205	210	213	216	216	215	212	208			
55	167	162	159	157	156	157	160	164	177	182	186	188	189	187	184	180			
60	138	134	130	128	127	129	132	136	149	153	157	160	160	159	155	151			
65	111	106	102	100	99.4	101	104	108	120	125	129	131	132	130	127	123			
70	83.2	78.7	74.8	72.9	72.3	73.9	76.8	81.0	93.0	97.3	101	103	104	102	99.4	95.4			
75	57.3	53.0	49.5	47.4	47.0	48.5	51.4	55.4	66.7	70.8	74.3	76.4	76.6	75.4	72.6	68.9			
80	33.5	29.5	26.4	24.5	24.3	25.6	28.3	32.0	42.4	46.2	49.2	51.1	51.4	50.2	47.6	44.0			
85	12.3	8.91	6.86	5.13	4.97	6.44	8.10	11.3	20.7	24.0	26.7	28.3	28.5	27.3	24.9	21.7			
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.96	4.71	7.06	8.39	8.52	7.34	5.17	2.40			
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
115	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01			
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01			
145	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01			
150	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01			
155	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01			
160	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01			
165	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01			
170	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01			
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00			
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:zack
 Test Date:2020-06-02

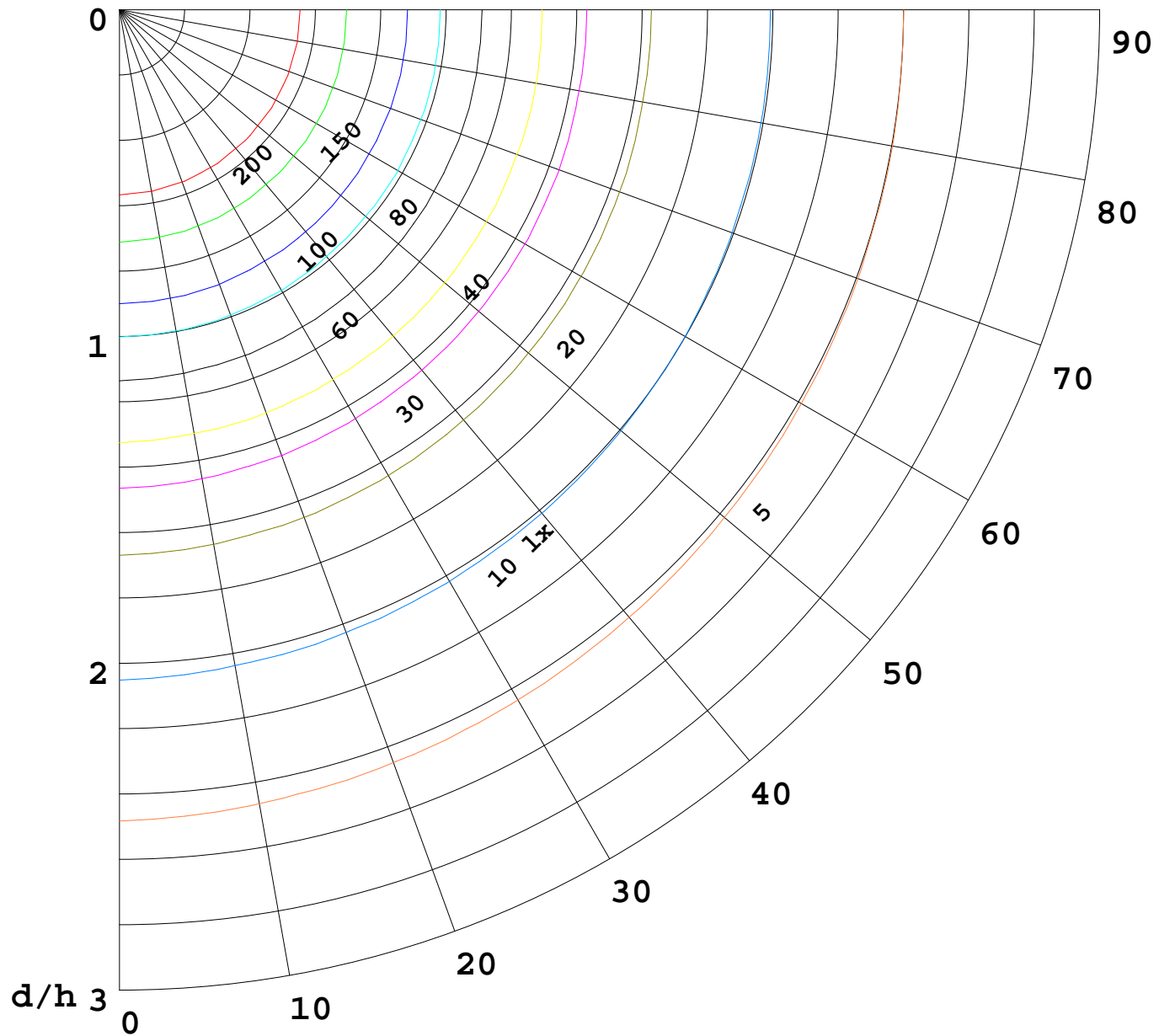
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:55.4%
 Test Distance:2.468m [K=1.0000]
 Remarks:

I (cd)



1000 lm

$\kappa = 1$



F = 3000 lm
K = 0.7
Hcc = 2.0 m
Hfc = 0.0 m
Eave = 300 lx

	Pcc	Pw	Pfc
—————	70	50	30
—————	50	30	20

