LiteBLOCK™ LED LIGHTING SPECIFICATION
For
20KLM 17 Inch Hi-Bay/Sports Light
Model No: IYWI-15B/L50-80VMD

(International Patent No. PCT/IB2015/058853)

Prepared by: Andrew Piaskowski

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Approved: …AEDL Inc…….

Participating Canadian Partners:

IYWI - Industries Yi Fei Wang Inc.

Innovation, Design & Development (BN: 832541494RC0001)

LIGHTRON TECHNOLOGIES INC.

Manufacture, Assembly & Test (BN: 722749298RC0001)

General Specification Sheet for LiteBLOCK™ LED High Efficiency Lighting

1.0 General

1.1 LiteBLOCK™ LED lighting products have been developed to the highest standards in the industry ensuring high reliability and performance.

1.2 The LiteBLOCK™ LED lighting system is composed of two main components manufactured to custom needs:

a) LED Module
b) Driver

LiteBLOCK™ is a light engine which can be easily adapted to customer requirements configured optically to client's requirements.

1.3 If LiteBLOCK™ is to be mounted in a luminaire or additional reflectors, IYWInc and Lightron Technology Inc . needs to be consulted to ensure correct thermal operation and that local regulatory requirements are met. Any modification or change to our products without our consent will deem warranty void and possibly compromise safety.

1.4 Depending on application and use, our LED modules produce illumination efficiencies from 124 Lm/W (Lumens per Watt) to over 140 Lm/W for numerous types of applications: Flood lighting, e.g. Hi-Bay, hall, gymnasium, swimming pools or external field applications such as sports fields and ski slopes.

1.5 The LED Driver Modules are configured for specific LED Modules and are not client configurable or interchangeable with other products. The Driver module is usually mounted with the LED module resulting in an integrated structure complying with the most rigorous safety and performance standards.

1.6 Our LiteBLOCK™ LED lighting series is designed to give our clients the utmost flexibility enabling adaption to most applications. The specification below is specific to the 17 Inch Hi-Bay/Sports Light Model: IYWI-15B/L50-80VMD.

2.0 17 Inc 20KLM LiteBLOCK™ LED Specifications

TABLE 1 Utility Voltage and Power Characteristics

DRIVER(s)	
Input Voltage Range:	180 ~ 265 VAC (50/60Hz)
Nominal Wattage:	164W @ 180V AC RMS Input.
Input Current:	0.72A RMS @ Nominal 230V RMS
Harmonic Currents:	To IEC 1000-3-2 (See Appendix A)
P.F. (Power Factor)	0.97 ~ 1.00 Depending on Input Voltage
T.H.D. (Total Harmonic Distortion)	< 12% All Models
Compliances:	CE; (See product Label for specific CE Directives) CSA C22.2 No. 250.13-14; UL 8750, 1st Ed.
FCC: (Pending)	US: FCC 47 CFR Part 15; Canada, ICES-005
Operating Ambient Temperature Range:	-45 ºC to 40 ºC
Control (Optional):	To IEC 60929 Annex E for DC control: 0 ~ 100% - (Control voltage 0 ~ 10V DC); DMX512 option.
Environmental:	Dry and wet locations IP65 minimum; IP68 to special order.
Installation:	In locations approved by us or our distributers AEDL Inc.

TABLE 2 LED Module Characteristics

LED MODULE(s)	
Input Voltage Range:	Specific to driver module.
Nominal Wattage:	164W
Color Temperature:	5400K to 5800K
System Efficacy (Including Driver Losses):	125 ~ 150 LMs/W
Operating Ambient Temperature Range:	-40 ºC to 40 ºC
Installation:	Consult IYWInc and Lightron Technology Inc ; Lightron Technologies or AEDL Inc.
Optical Standard/Characterization: (Moving Mirror Goniophotometer Test Report- Pending)	IESNA LM-35-02, IES LM-79-08, ANSI C82.77-2002;
Optical Standard/Characterization: (Sphere Test Report - Pending)	CIE 84-1989, IESNA LM-16-93, IESNA LM-58-94, IES LM-79-08, ANSI C82.77-2002
Environmental:	Dry and wet locations IP67

3.0 System Specifications

TABLE 3 System Characteristics

SYSTEM	
Average Life:	20 Years (Based on MTBF of 200,000 hrs at 40 deg. C – Derate by factor of 2 for every 10 deg. C temperature rise above 40 deg. C)
Lumen Maintenance:	LEDs are to IESNA LM-80-2008; (Reported TM-21 L70 Lifetime :> 36,000 hours @ 55ºC and 60 m.a.)
Average Chromaticity Shift:	0.0014 @ 6000 hours (Δu'v')
CRI:	83 Minimum; 84 Typical; 98 Maximum
Minimum Starting Temperature:	-55 ºC
Operating Ambient Temperature Range:	-40 ºC to 40 ºC
Installation:	Consult with AEDL Distributers.
Compliances: (European)	CE; EN6256; EN60598-1; EN60384-14; 60529; EN61000-6-3; EN6100-6-1
Compliances: (North American Pending)	UL48 & CSA C22.2 No. 207 for signs; UL 1598 & CSA C22.2 No. 250.0 for fixed installations.
Environmental:	Dry and wet locations IP65 minimum.
Mechanical & Structural:	Consult with IYWInc and Lightron Technology Inc LED for model variants.

FIGURE 1 Typical Lambertian Polar Radiation Pattern for LITEBlock® LED Modules.
(Note: This may vary according to specific reflectors and optical systems)
See our IES Files for specific applications.

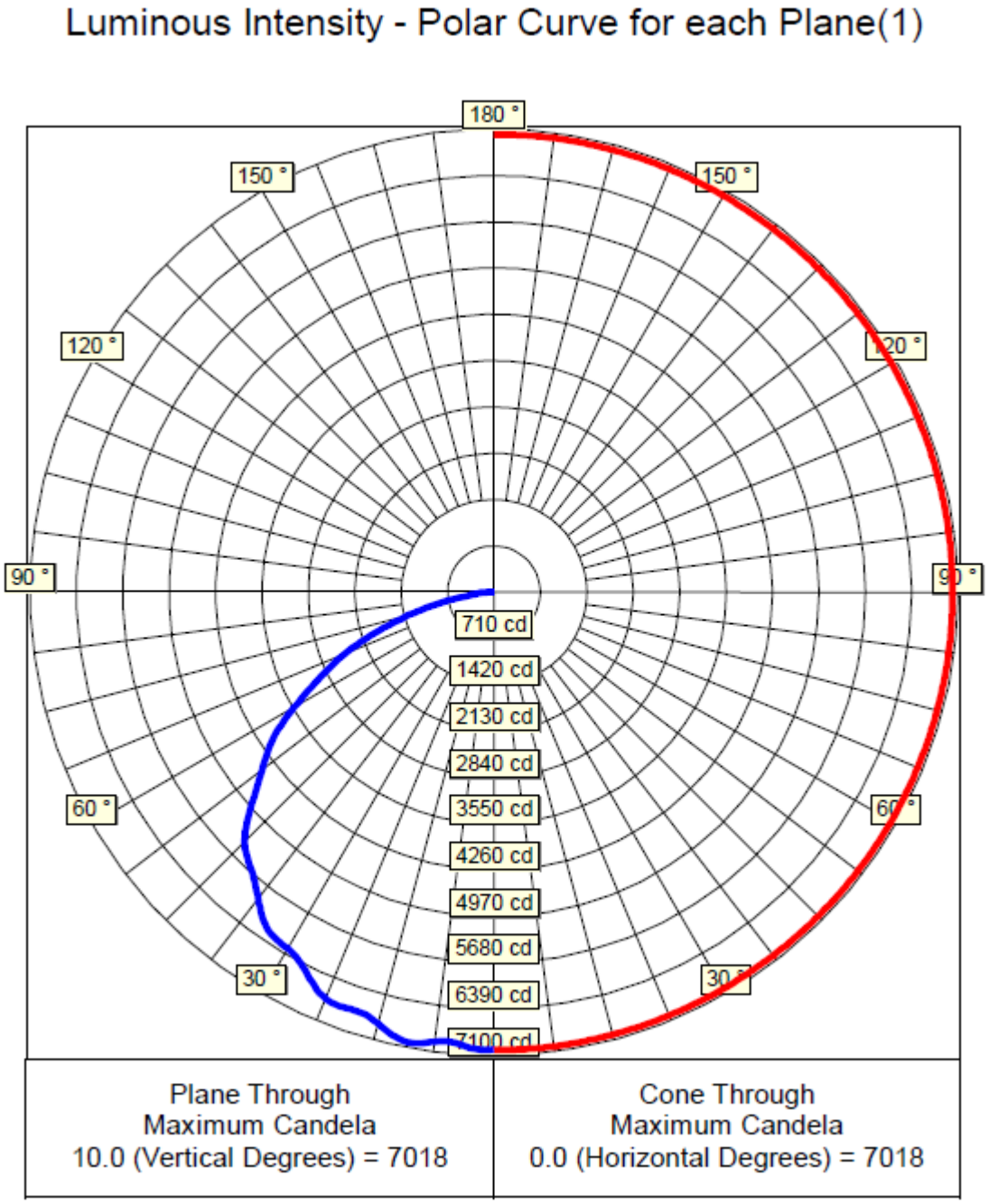
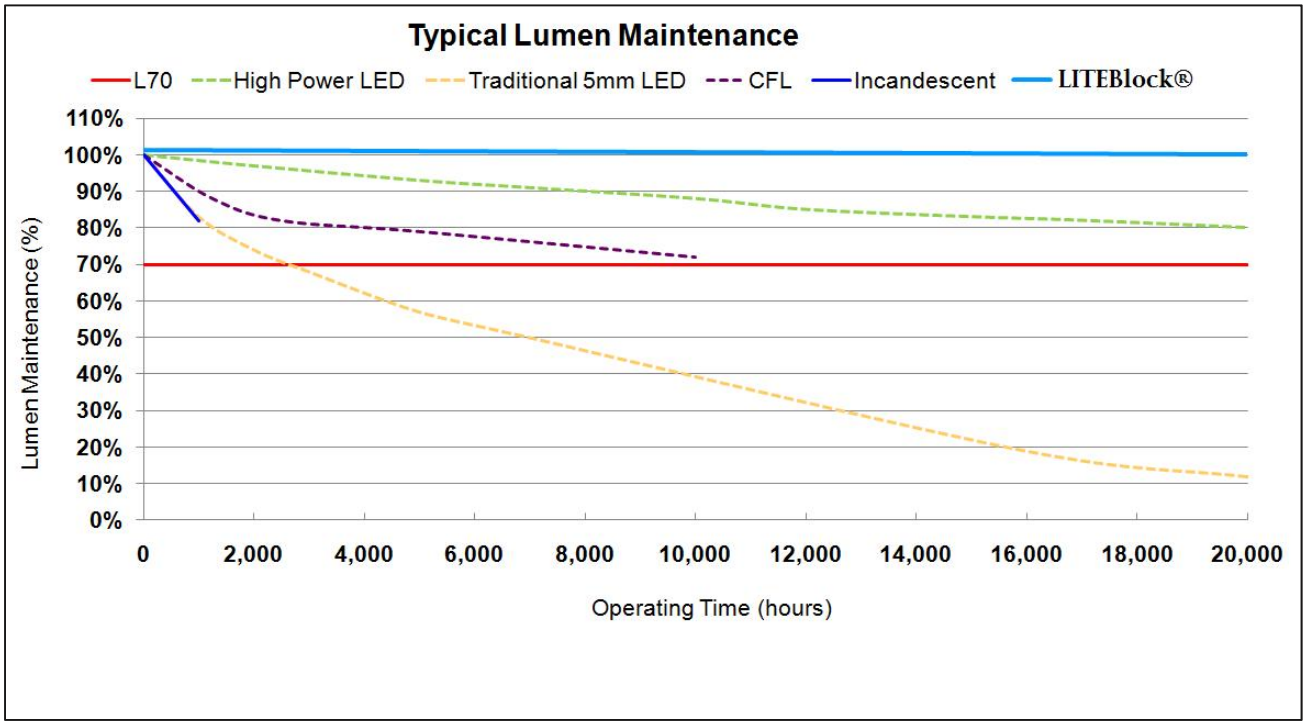


FIGURE 2 Typical Lumen Maintenance



HARMONIC LIMITS FOR IEC 1000-3-2

CLASS A*

Harmonic (n)	Max. Current
Odd	
3	2.30
5	1.14
7	0.77
9	0.40
11	0.33
13	0.21
15 ≤ n ≤ 39	0.15 * 15/n
Even	
2	1.08
4	0.43
6	0.30
8 ≤ n ≤ 40	0.23 * 8/n

*For Class B, multiply by 1.5

CLASS C

Harmonic (n)	Max. Percentage of the input current at
2	2
3	30 * λ
5	10
7	7
9	5
11 ≤ n ≤ 39	3

λ is the circuit power factor

CLASS D

Harmonic (n)	Max. current per watt mA/W	Max current A
3	3.4	2.30
5	1.9	1.14
7	1.0	0.77
9	0.5	0.40
11	0.35	0.33
13 and on	extrapolate 3.85/n	see Class A

Equipment Classification:

Class A: Balanced three phase, and all other equipment not included in B through D
Class B: Portable tools
Class C: Lighting equipment (including dimmers)
Class D: Equipment P ≤ 600W with special input current wave shape, if not included in A through C. (Many low power products with switching power supplies, e.g. PC's, printers and fax machines fall into this category.)

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